Project Libraries, Collaborative, and Remote Workflows

PART 16 — CONTENTS

Managing Project Libraries and Project Servers

This chapter describes how to set up and use project libraries in greater detail, giving you more control over how projects are saved and organized.

The chapter details how to set up local, network, and cloud project libraries you can use to administer DaVinci Resolve projects that are available to multiple DaVinci Resolve workstations.

Contents

What is a Project Library?

A Project Library (formerly project database), is a database file storing one or more DaVinci Resolve projects. When you create or load a project from the Project Manager, or save a current project, you read from or write to a project library. A project library contains multiple projects, and each project contains all the timelines, grades, clip metadata, visual effects, audio mixing, etc. for your film. A project library does not store the original media itself, only the instructions on how to use that media to create a finished film. DaVinci Resolve can access multiple project libraries, but can only connect to one project library at a time.

Using Project Libraries

Setting up a structure for storing projects and project libraries is an important part of creating streamlined and efficient workflows. For example, creating a separate project library for each TV series, commercial, or film a post house is working on helps compartmentalize your clients, and improves performance by only loading up what you need for a specific project.

There are three ways DaVinci Resolve uses to access project libraries, and the choice of which to use is largely determined by the amount of people working on the same project, and where they are in the world. Each option is described in detail below.

— **Local Project Libraries:** (the default option) Best used for productions using a single workstation to complete the entire film. Multiple people may work on the same project, but they work one at a time on the same machine. Your project libraries are stored locally on the computer where DaVinci Resolve is installed, and all media drives in the project are connected locally.

— **Network Project Libraries:** Best used for post houses or productions that have multiple DaVinci Resolve workstations in the same building, and want to be able to work on the same project from each room, or collaboratively at the same time. Your project libraries are stored on a separate computer, running the DaVinci Resolve Project Server application. All workstations must be connected to this computer on the same local area network (LAN), and either connected to the same media drives via a NAS or MAM system, or each having a locally connected copy (or proxies) of the media available.

— **Cloud Project Libraries:** Best used for post houses, companies or productions that have multiple DaVinci Resolve workstations in different places around the world, and want to be able to work on the same project from each location individually, or collaboratively at the same time. Your project libraries are stored in the Blackmagic cloud service. All workstations must be connected to the internet, and each system must have a locally connected copy (or proxies) of the media available.
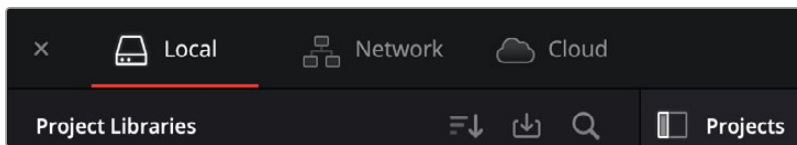
The three types of Project Libraries: local, network, and cloud

Navigating the and using the Project Libraries sidebar is common to all the above types of project libraries.

— **Project Library:** Each accessible project library is listed by name, and clicking on it will connect that library and its contained projects to DaVinci Resolve. You can choose from many libraries, but only one library can be active at a time.

— **Sort Libraries:** Selects the sort order of how the project libraries appear, options are Name, Schema (date), Status, and Location. They can be sorted in both Ascending and Descending order.

— **Restore:** Allows you to load a project library that you previously backed up.

— **Search:** Allows you to search for a specific project library by text, and you can limit the search by Name, Schema, Status, and Location.
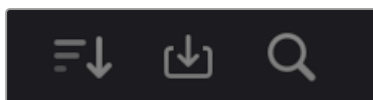
Project Libraries sidebar controls
(L-R): Sort, Restore, Search

Local Project Libraries

Local project libraries are the simplest and most common type of project library and require no additional set up or configuration by the user, other than installing DaVinci Resolve. These libraries are saved locally to your workstation; by default they are placed in a folder called Resolve Disk Database, though they can be placed manually anywhere on your file system.

Creating a New Local Project Library

Creating a new local library is a simple and straightforward process.

To Create a New Local Project Library:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager
      to expose the sidebar.

2   Select the Local icon from the Project Library options.

3   Click on the "Add Project Library" button at the bottom of the sidebar.

4   Select the Create option to make a new project library.

5   Enter a new name for your project library.

6   Press the Browse button next to Location, to select where on your local computer to save the
      project library.

7   Press the Create button.

You can now create or import new projects directly into your new local project library.
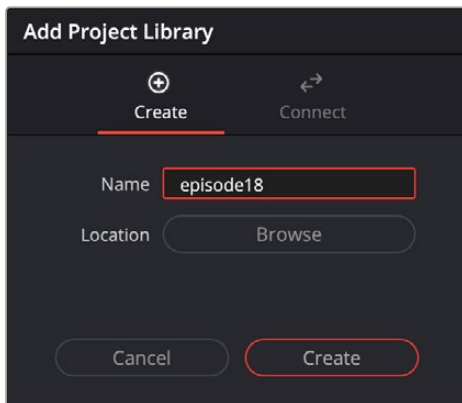
Creating a local project library

Connecting to an Existing Local Project Library

You can reconnect to an already existing project library using the following steps.

To connect to an existing project library:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager, to expose
      the sidebar.

2   Select the Local icon from the Project Library options.

3   Click on the "Add Project Library" button at the bottom of the sidebar.

4   Select the Connect option to access the existing project library.

5   Enter a new name for your project library.

6   Press the Browse button next to Location, to select where on your local computer the folder
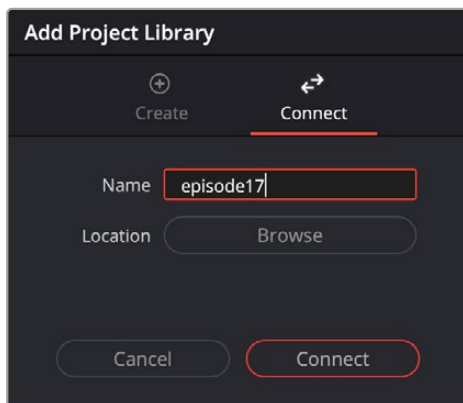   containing the existing project library is. It is commonly named "Resolve Disk Project library."

7   Press the Connect button.

You can now view and use all the existing projects directly from the existing local project library.

Connecting to an existing local project library

Disconnecting from a Local Project Library

You can disconnect and remove an already existing project library from the Project Libraries list using
the following steps.

To disconnect from a project library:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager to expose
    the sidebar.

2   Select the Local icon from the Project Library options.

3   Right-click on the project library that you want to disconnect from, and select disconnect from the
    context menu.

4   Press the disconnect button in the confirmation dialog.

Disconnecting a project library simply removes it from the available options in the Project Libraries
sidebar. It does not delete the project library. You can either manually delete it in the OS filesystem, or
reconnect to it using the steps described in Connecting to an Existing Local Project Library.

Backing up a Local Project Library

You can also back up project libraries by exporting them, and then reimport them later.

To backup/export a project library:

1   Select the project library you want to back up.

2   Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).
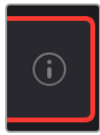
The Display Project
Library Details icon

3   Select the Back Up button.

4   Choose a location to which to save the backup in the Backup Project Library dialog, and click Save.

Restoring a Local Project Library

You can import existing project libraries to pass multiple projects between systems.

To restore/import a project library:

1   Click the Restore button at the top of the Project Libraries sidebar.

The Restore button

2   Find the project library you need to import using the file import dialog, and click Open.

3   In the Add Project Library dialog, do the following:

a)   Type a name for the new project library into the Name field. This will rename the imported project library but will not alter its contents. You can also name it the same as the original project library.

b)   Click within the Location field and use the Filesystem navigation dialog to choose the directory that contains the existing DaVinci Resolve project libraries.

4   Click Create, and the imported local project library will appear in the Local section of the Project Libraries sidebar.

Upgrading a Local Project Library

Selected libraries display an upgrade warning in the Project Manager only when you've installed a new version of DaVinci Resolve and you have project libraries that were created in older versions of DaVinci Resolve that need upgrading.
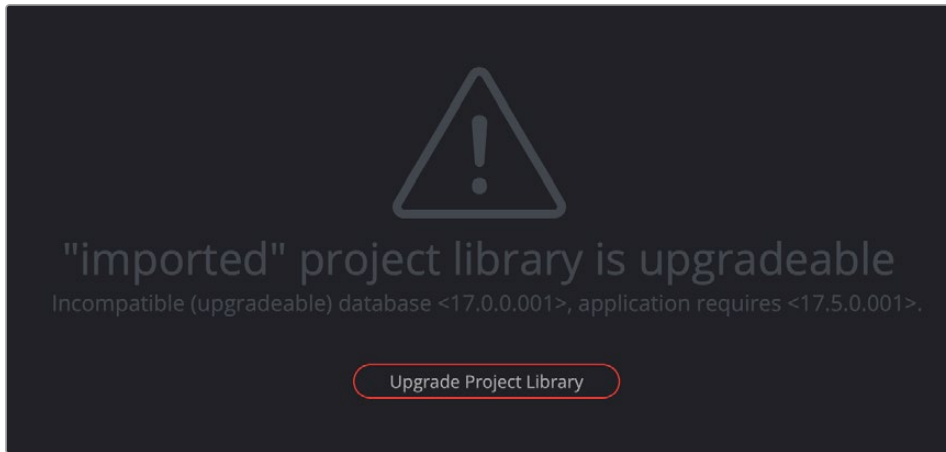
The upgrade warning in the Project Manager indicates
that project library needs to be upgraded.

It's generally a good idea to back up a project library prior to upgrading it, in case something
goes wrong. In general, upgrading from a whole version release to the next whole version release
of DaVinci Resolve usually requires an upgrade, while upgrading to a dot release of the same
version may or may not. If the currently used project library requires an update, you'll be told on
application startup.

To upgrade a project library from an old version of DaVinci Resolve:

Click on a project library that needs updating, and select the Upgrade Project Library button. A dialog
appears to confirm if you really want to upgrade that project library. Click Upgrade to proceed.

Network Project Libraries

Multiple DaVinci Resolve workstations can access the same project when you set up a Project Server
that shares one or more network project libraries over a local network. Once you've set this up, there
are two ways of using a shared project library.

Multiple Users Sharing Projects

The simplest case is for users to simply open up a project on the Project Server and work on it.
Working this way, if you ever have to change rooms, or switch workstations, you can easily open that
same project from any machine that's connected to the server on the same network without needing
to export and import it first. For example, an assistant could be working with a colorist to prepare files
for the next reel by conforming shots, managing VFX replacements, doing dust busting repairs, and so
on in an unsupervised editing suite anywhere in the building, before saving their work and closing the
project so the colorist can immediately open that same project in the grading theater across the hall.

Another way of taking advantage of shared Project Servers is to split large projects into sections, so
multiple artists can work in parallel on different pieces of the whole in different suites, handing them
off when necessary. For example, a feature film may be split into reels, or a film can be separated from
the trailer and electronic press kit projects that it shares media with. In this case, each project can be
edited, mixed, and graded by different people accessing the Project Server.

When a shared project is opened by someone else after it's already been opened, a dialog informs you that it's being opened in Read-only mode to prevent multiple users from accessing the project at the same time. If you load a Read-only project and decide you want to make changes anyway, you'll need to use the Save As command to create a duplicate project file using a new name in order to preserve your work.

Using Collaborative Workflow for Network Project Libraries

Alternately, you can use the Collaborative Workflow features in DaVinci Resolve to enable multiple collaborators on multiple workstations in multiple rooms to open and work on the very same project at the same time. For example, an editor can be editing a project's main timeline in one room, while an assistant organizes media and adds metadata within the same project in another room, and a colorist grades dailies in that same project in yet another room, all accessing the same Project Server which allows them to work together in parallel. For more information, *see Chapter 194, "Collaborative Workflow."*

All participants in a Collaborative Workflow must be using a network project library on a Project Server that's properly set up.

Connecting to a Network Project Library on a DaVinci Resolve Project Server

The main difference between a local project library, and a network project library is that the network project library resides on another computer connected on the same network running the DaVinci Resolve Project Server. Setting up the Project Server itself is covered later in this chapter, but as a network project user in DaVinci Resolve you will need to understand how your local workstation connects to the Project Server.

Once the hardware and software install is done (essentially all computers connected on the same network, all running DaVinci Resolve, and one computer running the Project Server), you will need to authorize your computer to access the network project libraries on the Project Server and this is handled by "keys."

If you want to have access to a network project library you must be provided a key to it that is generated by the Project Server. The key is simply an .xml file with the extension ".resolvedbkey".

To use an access key to enable easy connection to a Project Server:

1   Open DaVinci Resolve, and when the Project Manager appears, open the Project Libraries sidebar.

2   Drag the .resolvedbkey file and drop it anywhere within the Project Manager.

3   The shared project library should now appear in the Project Libraries sidebar, and if you select it, you'll see all of the projects that are located in that project library on the Project Server.

You also may have been set up as a Member of the Project Server, and provided your own username and password. If that is the case, see the section "Connecting to an Existing Network Project Library" below.

Once you are connected to a network project library, you can manage them just as if you were connected locally.
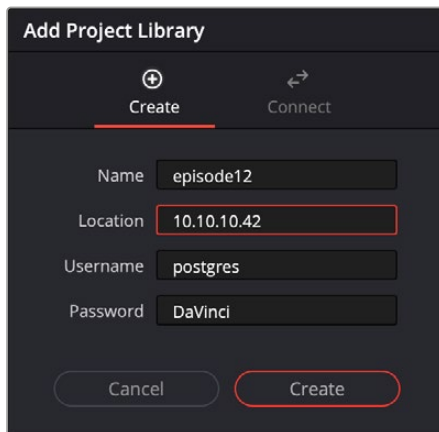
Creating a New Network Project Library

Creating a new network project library is a simple and straightforward process.

To create a new network project library:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager to expose the sidebar.

2   Select the Network icon from the Project Library options.

3   Click on the "Add Project Library" button at the bottom of the sidebar.

4   Select the Create option to make a new project library.

5   Enter a new name for your project library.

6   Enter the IP address of the DaVinci Resolve Project Server you're accessing.

7   If you are a Member of the Project Server, enter your Username and Password. Otherwise, use the default user: postgres and password: DaVinci.

8   Click on the Create button.

You can now create or import new projects directly into your new network project library.

Creating a network project library

Connecting to an Existing Network Project Library

You can connect to an already existing project library on a Project Server by using the following steps.

To connect to an existing project library on a Project Server:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager to expose the sidebar.

2   Select the Network icon from the Project Library options.

3   Click on the "Add Project Library" button at the bottom of the sidebar.

4   Select the Connect option to access the existing project library.

5   Enter the name of the project library on the Project Server.

6   Enter the IP address of the DaVinci Resolve Project Server you're accessing.

7   If you are a Member of the Project Server, enter your Username and Password. Otherwise, use the default user: postgres and password: DaVinci.

8   Press the Connect button.

You can now view and use all the existing projects directly from the existing network project library.
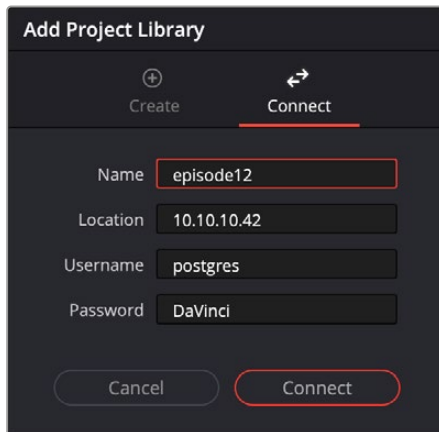
Connecting to an existing
network project library

Disconnecting from a Network Project Library

You can disconnect and remove an already existing project library from the Project Libraries list using the following steps.

To disconnect from a network project library:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager to expose the sidebar.

2   Select the Network icon from the Project Library options.

3   Select the project library you want to disconnect.

4   Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

5   Select the Remove button.

6   Press the disconnect button in the confirmation dialog.

Disconnecting a project library simply removes it from the available options in the Project Libraries sidebar. It does not delete the project library. You can either manually delete it in the OS filesystem, or reconnect to it using the steps described in Connecting to an Existing Local Project Library.

Backing up a Network Project Library

You can also back up project libraries by exporting them, and then reimport them later.

To backup/export a network project library:

1   Select the project library you want to back up.

2   Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

3   Select the Back Up button.

4   Choose a location to which to save the backup in the Backup Project library dialog, and click Save.

Restoring a Network Project Library

You can import existing project libraries to pass multiple projects between systems.

To restore/import a network project library:

1   Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager to expose the sidebar.

2   Select the Network icon from the Project Library options.

3   Click the Restore button at the top of the Project Libraries sidebar.

The Restore button

4   Find the project library you need to import using the file import dialog, and click Open.

5   In the Add Project Library dialog, do the following:

   a)   Enter a new name for your project library.

   b)   Enter the IP address of the DaVinci Resolve Project Server you're accessing.

   c)   If you are a Member of the Project Server, enter your Username and Password. Otherwise, use the default user: *postgres* and password: *DaVinci*.

   d)   Click on the Create button and the imported local project library will appear in the Network section of the Project Libraries sidebar.

Duplicating a Network Project Library

You can also duplicate a network project library as an additional backup, or save point in a large project.

To duplicate a network project library:

1   Select the project library you want to duplicate.

2   Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

3   Select the Duplicate button.

4   Choose a new unique name for the duplicated library and click OK.

Optimizing a Project Library

Sometimes, project libraries in DaVinci Resolve can become so large that their size affects performance. In these cases you may need to optimize them to improve access speed by "vacuuming" the project library of unnecessary spaces and reindexing it. Using the Optimize command can also be a valuable troubleshooting step in certain cases where you're having problems opening, importing, or otherwise using projects saved within network project libraries.

To optimize a project library:

1   Select the project library you want to optimize.

2   Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

3   Click the Optimize button.

4   A warning dialog will appear. Click Optimize to proceed, otherwise click cancel to leave the project library in its current state.

Sharing a Key to a Network Project Library

If you wish, you can share your access key to a network project library with another user on the same local network.

To export a key to a network project library:

1 Click on the Show/Hide Project Libraries icon in the upper left of the Project Manager to expose the sidebar.

2 Select the Network icon from the Project Library options.

3 Select the project library you want to share the key to.

4 Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

5 Click the Share Key button.

6 Select the directory in your file system where you want to save the key to and click save.

7 Send the resulting .resolvedbkey file to the other user.

Using the DaVinci Resolve Project Server Application

DaVinci Resolve Project Server is a stand-alone application that lets you create, manage, backup, restore, and most importantly share project libraries on any workstation. Using this application, it's not necessary to launch DaVinci Resolve just to manage your project libraries.

Installing the DaVinci Resolve Project Server

The hardware and software setup required to install the DaVinci Resolve Project server is outlined in the User's Guide document included in the program download. On initial startup, you will be presented with a screen to set up an Admin account for the server. This account will give you full permissions to adjust any aspect of the project libraries and make changes to the Project Server itself.
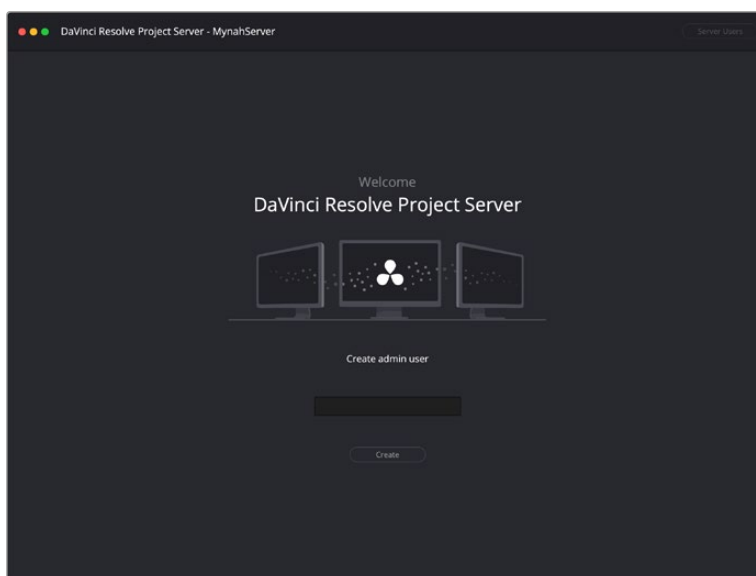
On initial startup, the DaVinci Resolve Project Server
will ask you to create an administrator account.

The DaVinci Resolve Project Server Interface

The DaVinci Resolve Project Server interface greatly resembles the DaVinci Resolve Project Manager with the Project Libraries sidebar open. However, it exposes all of the project library management tools that are available for creating and managing project libraries, including controls for sharing project libraries and creating access keys that are essential for quickly and easily creating and connecting to Project Servers.
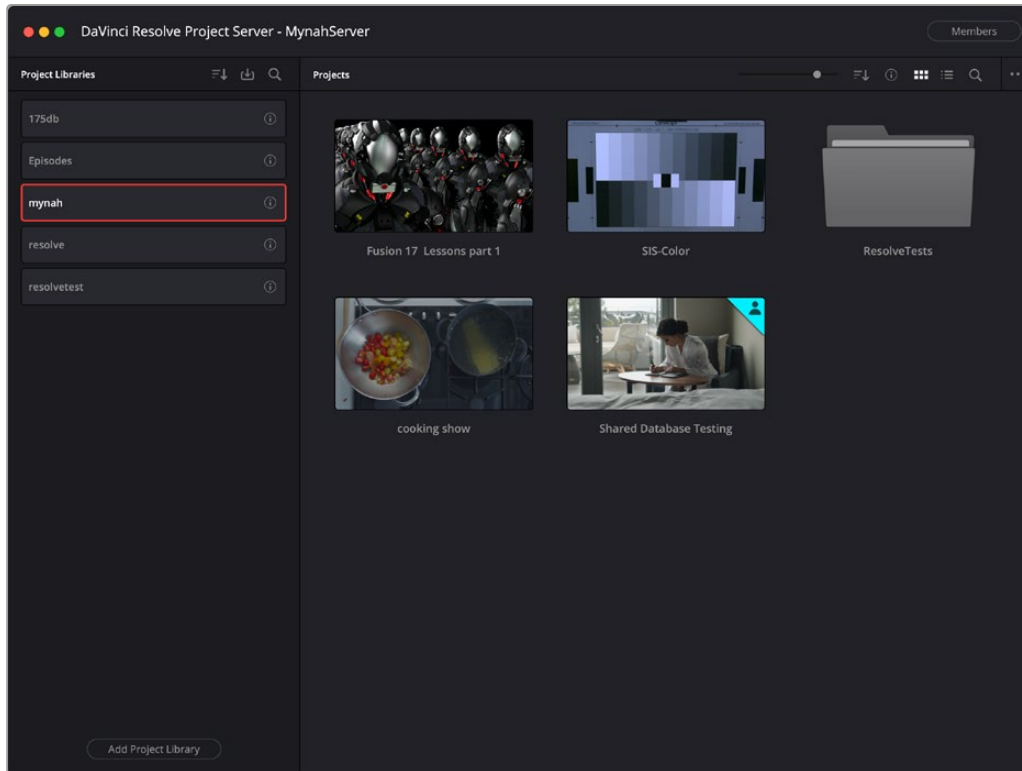
The DaVinci Resolve Project Server window

This window has three main UI areas:

— **Project libraries list:** The Project libraries list in the Project Server application shows every single DaVinci Resolve network project library on your machine; even ones that have been disconnected. This makes it easy to find project libraries that you want to reconnect.

— **Projects browser:** Shows all projects and folders within the currently selected project library as icons or as a hierarchical list.

— **Toolbar:** A toolbar at the top of the window shows you functions that are available for managing DaVinci Resolve project libraries on your workstation.
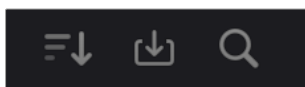
Project Libraries toolbar controls
(L-R): Sort, Restore, Search

The three controls at the top of the Project Libraries toolbar have the following functions:

— **Sort Order drop-down menu:** This menu lets you choose how to sort the various local and network project libraries displayed in the sidebar. You can sort by Database Name, Schema (by date), Status, or Location in Ascending or Descending order.
— **Restore:** Imports .resolve.backup files to restore a backed up project library.
— **Show Search Field:** Displays a search field and search criteria drop-down that lets you search for project libraries in the sidebar by Name, Schema, Status, or Location.
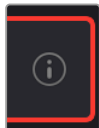
Clicking on the Display Project Library Details icon (the circled letter "i" to the right of the project library), shows additional information underneath each database in the sidebar, and exposes the Backup and Optimize buttons.

The Display Project
Library Details icon

The controls exposed in the Project Library details have the following functions:

— **Project Library Settings:** Clicking on this gear icon allows to choose to Rename, Delete, or Export an Access Key for the library.
— **Project Library Enabled:** This toggle enables or disables the project library sharing.
— **Project Library Information:** Displays metadata about the library, such as Location (IP address of the Project Server), Status (compatible or upgrade required), and the created and modified dates.
— **Backup:** Selecting this button lets you export the project library to a backup file.
— **Optimize:** Selecting this button lets you optimize the project library for better performance.
— **Members:** This area shows you which members have access to the project, and the Manage Members button lets you add or remove their access.
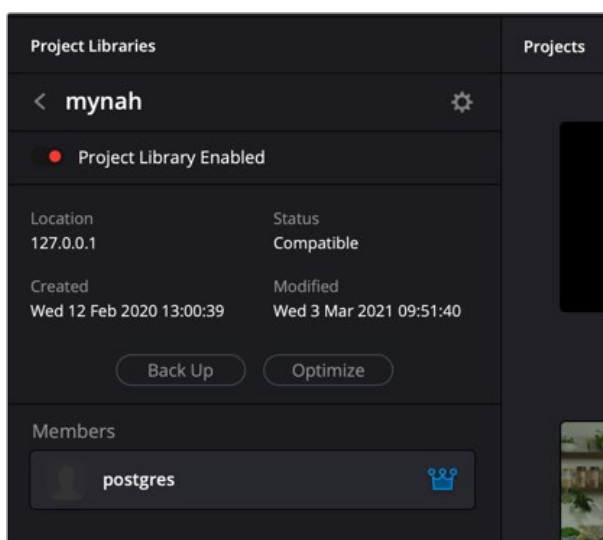
Project Library details exposed

Creating New Network Project Libraries

If necessary, you can create new network project libraries right within the DaVinci Resolve Project Server.

To create a new network project library:

1 Click the Add Project Library button at the bottom of the Project Libraries list.

2 When the Create Project Library window appears, type a name for the new project library into the Name field. Because all projects in a network project library are saved internally within the network project library, no other changes are necessary.

3 Click Create, and the new network project library will appear in the Project Libraries list.

Backing Up and Restoring Project Libraries

You can also back up and restore project libraries without needing to open DaVinci Resolve. Furthermore, you can back up project libraries from older versions of DaVinci Resolve, making it easy to back up project libraries for safety before you upgrade them.

To backup/export a project library:

1 Select the project library you want to back up.

2 Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

3 Click the Back Up button.

4 Choose a location to which to save the backup in the Backup Project library dialog, and click Save.

To restore/import a project library:

1 Click the Restore button at the top of the Project Libraries sidebar.

The Restore button

2 Find the project library you need to import using the file import dialog, and click Open.

3 In the Add Project Library dialog, type a name for the new project library into the Name field. This will rename the imported project library but will not alter its contents. You can also name it the same as the original project library.

4 Click Create, and the imported local project library will appear in the Project Libraries sidebar.

Upgrading Project Libraries

From time to time, new versions of DaVinci Resolve require changes to the way projects are created, which requires project libraries created with older versions of DaVinci Resolve to be upgraded before you can access the projects within. Fortunately, this is a simple process.
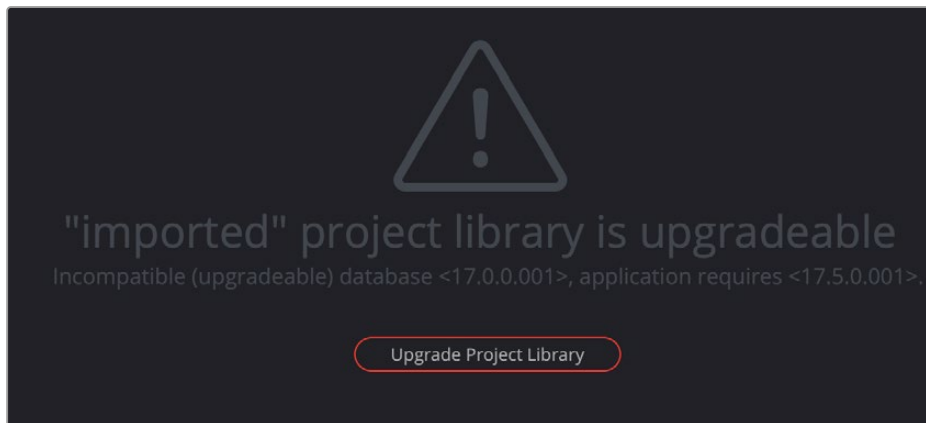
"imported" project library is upgradeable
Incompatible (upgradeable) database <17.0.0.001>, application requires <17.5.0.001>.

Upgrade Project Library

The upgrade warning in the Project Manager indicates
that project library needs to be upgraded

It's generally a good idea to back up a project library prior to upgrading it, in case something
goes wrong. In general, upgrading from a whole version release to the next whole version release
of DaVinci Resolve usually requires an upgrade, while upgrading to a dot release of the same
version may or may not. If the currently used project library requires an update, you'll be told on
application startup.

To upgrade a project library from an older version of DaVinci Resolve:

Click on a project library that needs updating, and select the Upgrade Project Library button. A dialog
appears to confirm if you really want to upgrade that project library. Click Upgrade to proceed.

Viewing Project Library Contents

If you're using multiple project libraries to organize your projects, you can browse the contents of
each project library to search for what you're looking for. Simply click to select a project library in the
sidebar, and an orange highlight will appear. All projects corresponding to that project library appear
in the Project Manager window.

Optimizing Project Libraries

Sometimes, project libraries in DaVinci Resolve can become so large that their size affects
performance. In these cases you may need to optimize them to improve access speed by "vacuuming"
the project library of unnecessary spaces and reindexing it. Using the Optimize command can also be
a valuable troubleshooting step in certain cases where you're having problems opening, importing, or
otherwise using projects saved within network project libraries.

To optimize a project library:

1   Select the project library you want to optimize.

2   Click the Display Project Library Details icon (the circled letter "i" to the right of the project library).

3   Click the Optimize button.

4   A warning dialog will appear. Click Optimize to proceed, otherwise click cancel to leave the project
     library in its current state.

Member Management in the DaVinci Resolve Project Server

It is possible to assign specific users to specific project libraries and adjust their roles. This gives extra granularity for security for complex projects with many users. Every network project library starts with the default user: postgres and password: DaVinci. This was until recently the only way to sign into the DaVinci Resolve Project Server remotely, but now you can add custom users and passwords as well. Members will be able to use their individual credentials to sign into network projects in the Project Manager.
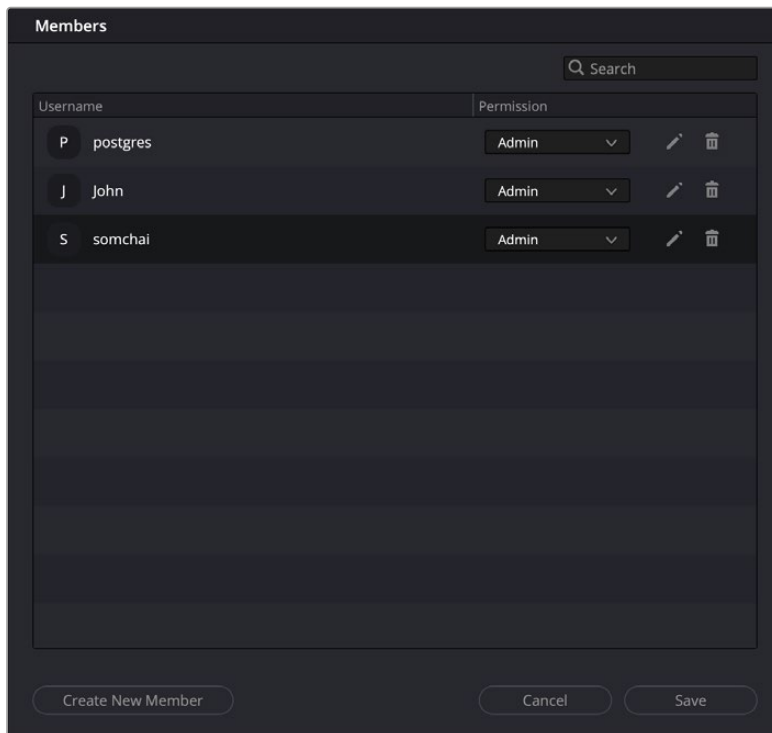
The DaVinci Resolve Project Server Members management window

To add a new member to the DaVinci Resolve Project Server:

1 Click the Members button on the top right of the DaVinci Resolve Project Server.

2 Click the Create New Member button at the bottom of the Members window.

3 Select a username and password for the member, you can optionally add a thumbnail photo as well. This thumbnail will be used to identify the user in collaboration mode.
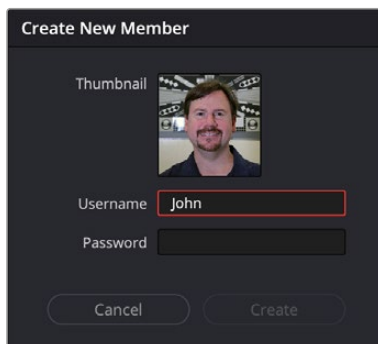
The DaVinci Resolve Project Server
Create New Member window

4   Repeat as for as many new users as you want to add.

5   Click the Save button to store the new users, or click Cancel to discard your changes.

To delete an existing member from the DaVinci Resolve Project Server:

1   Click the Members button on the top right of the DaVinci Resolve Project Server.

2   Find the user you want to delete and press the trash can icon in that user's row. There is no warning dialog for the deletion, and it is not undoable, so make sure you double check that you have selected the correct user.

To modify an existing member's permissions in the DaVinci Resolve Project Server:

1   Click the Members button on the top right of the DaVinci Resolve Project Server.

2   To change the user's role between Administrator and Collaborator use the selection menu.

3   To edit a user's name and password details select the Pencil icon.

Assigning Members to Specific Project Libraries

Once you have created some members, you can add them to specific project libraries. This lets you have multiple teams of people, working on multiple projects off the same Project Server, without the off chance that they accidentally delete another teams projects, or have access to sensitive material.

To add or remove a member from a specific project library:

1   Open a project library's details settings by clicking on the "i" icon to the right of its name.

2   Click on the Manage Members button at the bottom of the project library.

3   To add a member, check the box next to their name in the All Members field.

4   To remove a member, click on the "x" next to their name in the Added Members field.
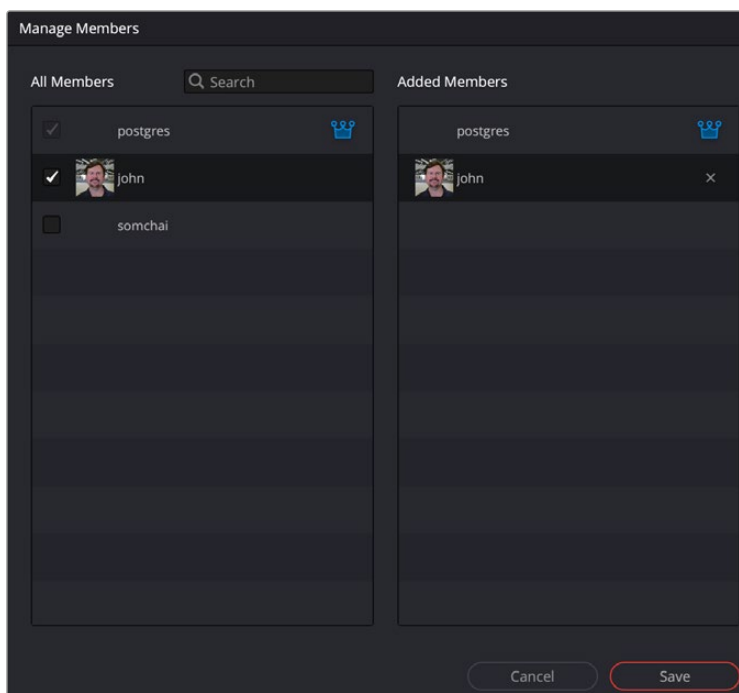
The DaVinci Resolve Project Server Mange Members window

Members added to a project library in this way will be able to log-in using their credentials in the Network Libraries section of the Project Manager in DaVinci Resolve.

Sharing Network Project Libraries via the Project Server

You can also use the DaVinci Resolve Project Server to easily set up a shared Project Server on your local network. However, for this to work, you need to adhere to the following requirements:

— All workstations need to be connected to the Project Server on a local network.

— All network connections should be reasonably fast (preferably Gigabit Ethernet or faster).

— The computer functioning as the Project Server should be reasonably fast, but it doesn't need fast GPU processing.

The following procedures describe how to set up a shared Project Server, and how to export an access key with which to easily set up other workstations to connect to it.

To configure the DaVinci Resolve Project Server:

1   Open the DaVinci Resolve Project Server application.

2   In the File > Network Interface menu choose the IP address you wish to use to connect to the client workstations.

The Network Interface menu

> **IMPORTANT:** You must select the appropriate Network Interface IP address that matches the network the client computers are on before you create and share a project library or create an access key, otherwise a connection error will occur.

To share a project library using the DaVinci Resolve Project Server:

1   Select or create a DaVinci Resolve project library you want to share, and click the Project Library Enabled slider on. It's at the top of the project library's details section.

2   When a dialog appears asking if you want to authorize the configuration of your Project Server, click Authorize. That project library can now be shared among other DaVinci Resolve workstations on the same network.

Once you've set up a Project Server, it's easy to connect other machines to that server using access keys that you can create using the DaVinci Resolve Project Server application.

To create an access key to enable easy connection to a Project Server:

1   Select a project library that you've set up to share, enter the library's details section, and choose the Export Access Key option from the settings icon in the upper right.

2   Choose a location via the Create Access Key dialog, and click Save. An access key file is saved to the location you chose with the file extension .resolvedbkey.

3   Copy the .resolvedbkey file to the workstation you want to connect to the shared project library.

4   Open DaVinci Resolve, and when the Project Manager appears, open the Project Libraries sidebar, and then drag the .resolvedbkey file and drop it anywhere within the Project Manager. The shared project library should now appear in the Project Libraries sidebar, and if you select it, you'll see all of the projects that are located in that project library on the Project Server.

If necessary, you can also disable sharing for any project library, preventing remote access to it from other workstations on the network.

To disable sharing:

1   With the DaVinci Resolve Project Server application open, select a project library you enabled sharing for, and click the Project Library Enabled slider off. It's at the top of the project library's details section.

2   When a dialog appears asking if you want to authorize the configuration of your PostgreSQL server, click Authorize. That project library will no longer be shared.

> **IMPORTANT:** If you enable sharing on a computer that is later moved to another network (for example, if you set up Project Server sharing on a laptop), you'll need to disable sharing and then re-enable it before you create access key files that will successfully connect to the new network location.

Cloud Project Libraries

Cloud project libraries are hosted on Blackmagic's Project Library servers on the internet, allowing DaVinci Resolve users to connect and collaborate on the same projects from any location in the world.

For more information on Cloud Project Libraries, *see Chapter 191, "Blackmagic Cloud Presentations."*

Collaborative Workflow

Multi-user collaborative workflow uses "bin locking" to manage who has access to what when multiple collaborators open the same project.

However, collaborative workflow also allows multiple artists to do simultaneous editing, compositing, grading, and metadata entry to clips on the same timeline within a single project for which Collaboration has been enabled. Multiple users can simultaneously access the same timeline within the same project to edit, composite, and grade at the same time, while other editors and assistants can open different bins containing different timelines within the same project to do editorial and media management. This chapter describes how to set up multiple DaVinci Resolve workstations to collaborate, and how to use bin locking to work together.

Contents

Introduction to Collaborative Workflow

Multi-user collaborative workflow allows simultaneous editing, compositing, grading, and Media Pool clip management by multiple people within a single project that has been enabled for collaboration. Collaboration takes three different forms:

— Using bin locking, multiple editors can simultaneously edit different timelines in different bins of the same project, while assistant editors can reorganize clips and edit the metadata in other bins within the same project. Bins are automatically locked when selected by a particular user and unlocked when deselected by that same user, or they can be manually set to be either locked or unlocked as circumstances require.

— Using clip locking, multiple colorists and compositing artists can work together in the same timeline, in either the Color page or Fusion page, without fear of overwriting one another's work. A clip is locked automatically when a user selects that clip to work on, and is unlocked (with the work checked in) when that same user selects a different clip. Clip locking in the Fusion page is maintained separately from clip locking on the Color page, so a compositing artist and colorist can work together on the same shot.

— One editor, one compositing artist, and one colorist can work together on the same clip in the same Timeline of the same project without conflict.

Overall, working in DaVinci Resolve in Collaborative Workflow mode is identical to working in non-collaborative mode. However, there are a few collaborative capabilities that are worth knowing about.

Collaborative Render Cache Support

Each collaborator on a project will have the exact same render cache format settings automatically configured across all machines. If you are collaborating across operating systems (Mac, Windows, Linux), it is important that the Render Cache Format is set to a codec that is supported by all platforms.

Collaborative Support for Individual Monitoring

If necessary, each collaborator on a project can override the output and monitoring settings of a project on their particular workstation. When a project is set to use Collaborative Workflow, a "Use Local Overrides" checkbox appears in the Video Monitoring group of the Project Settings that lets you choose how to monitor on your particular workstation.

Collaborative Marker, Flag, and Clip Color Support

Collaborative workflow supports the modification of markers, flags, clip metadata, and clip color from the Color page. Additionally, FrameIO comment markers are supported by collaborative workflow.

Read Only Mode

Users can load collaborative projects in Read Only Mode.

Collaborative Support for HDR

Starting with DaVinci Resolve 16, there is support for Dolby Vision and HDR10+ in collaborative workflows.

Requirements for Collaboration

In order to use collaborative workflow:

— All users must be working on a project that's been saved either in the Blackmagic Cloud, or on a properly configured remote project library server. This remote project library server can be on one of the actively used DaVinci Resolve workstations, or it can be another computer on your network that simply hosts shared projects, but it should be on a computer that is never shut down or put to sleep, to prevent projects suddenly becoming unavailable.

— All machines participating in a collaborative workflow must be networked. They can be on the same local area network (LAN), but you can also connect computers on different subnets.

— Shared projects should ideally use media on some type of fast storage area network (SAN), with each collaborator connected to that SAN so that every workstation that's connected to the project being collaborated on has direct access to the same media. In a pinch, shared volumes over a network will work, but proper SANs will provide significant performance benefits. Facilities using multiple computer platforms (macOS, Windows, and Linux) together can use the Mapped Mount option of the Media Storage Locations list, found in the DaVinci Resolve System Preferences, to facilitate cross platform drive connection.

— Alternatively, all workstations can be connected via the internet to the same cloud storage folder with the proper Path Mapping set up in the Project Settings.

For more information on setting up a project library server, *see Chapter 193, "Managing Project Libraries and Project Servers."*

Enabling Multiple User Collaboration

Enabling Multiple User collaboration mode on a project is required to use the collaboration toolset.

To open a project and initiate a collaborative workflow:

1   Open DaVinci Resolve on a computer that's connected to a remote project library or Blackmagic Cloud server.

2   Open any project on the remote project library DaVinci Resolve is connected to using the Project Manager.

3   When the project is open, choose File > Multiple User Collaboration.

Once collaboration is enabled, two additional buttons appear at the lower-right corner of the DaVinci Resolve interface, next to the Project Manager and Project Setting buttons. These are the Collaboration Chat and Collaboration buttons.

The Collaboration Chat button (far left) and
the Collaboration button (second from left)

> **NOTE:** When you enable collaboration, the "Auto conform missing clips as media is added to Media Pool" option in the General Options panel of the Project Settings is automatically disabled, as it interferes with collaborative workflow. Also, Live Save is automatically turned on in the Auto Save panel of the User Preferences, to ensure that all collaborators' work is saved regularly to avoid conflicts between collaborators.

Opening Projects to Collaborate

Projects that have Collaboration enabled appear with a badge on their thumbnail in the Project Manager to let you know that project is available for collaboration.
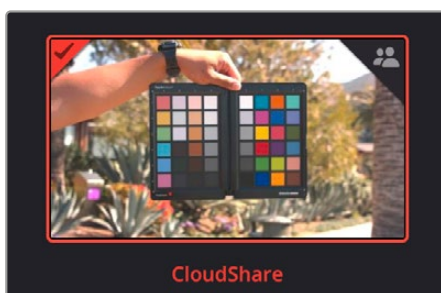
An icon indicates that a project in the
Project Manager is available for collaboration

At this point, anyone else who has access to this remote project library server can simply open this project up and work collaboratively with you. Whenever a collaborator opens the same project you're working in, the Collaboration Chat button at the bottom of the DaVinci Resolve UI highlights to let you know you have a message.

The Collaboration Chat
button highlights to let you
know you have a message

Opening the Collaboration Chat window shows who's collaborating with you.
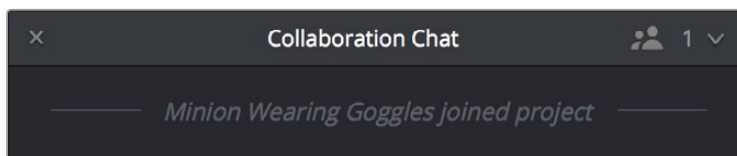
A new message in the Collaboration Chat window lets you know
who else has opened the project you're working on

Customizing Your Collaborator Identification

Once you've set up a project for collaboration, you want to make sure it's easy to tell all your collaborators apart. Clicking the Collaboration button opens a list of all collaborators, or project members, working in that project.

Opening the Collaboration list shows all the current project members

The top member is you, and you can change the name you use by editing the text field. Your user icon is set automatically based on the image you chose either in your Blackmagic Cloud account or the DaVinci Resolve Project Server. If you haven't chosen an image, it defaults to the first two letters of your user name. Additionally, you can see the other member's workstation OS revealed as an icon to the right of their name.

How Collaboration Works

At its simplest, collaborative workflow uses a "first come, first served" model to manage who has can make changes to what. Essentially, the first collaborator to select a bin in the Media Pool, open a timeline, or select a clip in the Fusion page or Color page gets a "lock" on that item. Once an item is locked (indicated by a colored collaborator badge), other collaborators can look at it, but they cannot make changes. This prevents versioning conflicts from occurring.

Bin and clip locks are released when a collaborator selects a different bin or timeline in the Media or Edit pages, or a different clip in the Fusion page or Color page. At that point, the changes that have been made to the previously locked item are "checked in" and made available to all collaborators once they refresh their project (by clicking a circular refresh icon that appears to the right of bins in the Media Pool or in the corner of the Edit page Viewer).

All changes that collaborators make are automatically saved to the project as they're made, so no work will ever be lost as you collaborate with your team. However, each collaborator gets to decide when they want to update the bin, timeline, or clip they're currently working on to see the changes made by everyone else, in order to prevent a kaleidoscope of constant alterations to compositions and grades from being a distraction while you're working.

The following sections describe Bin and Timeline locking and Clip locking in more detail.

Automatic Bin and Timeline Locking

Whenever a collaborator opens a particular bin, that bin and its contents are locked, preventing any other collaborators who open that project from making alterations to anything inside that same bin. This prevents versioning conflicts while work is in progress. When a bin is locked, you can still view its contents, if for instance you just need to figure out where a particular clip has been put, but you can't make changes.

Collaborators can open locked bins and see the contents for reference, but they cannot make any organizational or editorial changes. The only things that can be changed once a bin and its contents are locked are the creation or alterations of clip compositions in the Fusion page, and alterations to clip grades in the Color page.

You can always tell when a collaborator has a lock on a bin and its contents because a badge appears to the right of the bin in the Bin list, and in the corner of timeline thumbnails that are visible in the Media Pool browser area. Hovering the mouse over that badge in the Bin list reveals a tooltip with that collaborator's name.
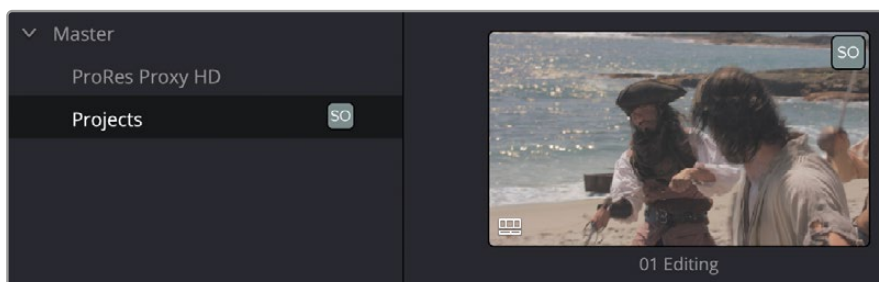
An icon indicates that another collaborator has a lock on the Projects bin.

Once a collaborator (someone other than you) makes changes to a bin's contents or to a timeline, you'll see a circular "refresh" badge appear by each affected bin in the Bin list of the Media Pool, alongside their collaborator icon. Click these badges whenever you want to update your version of the shared project with all organizational and editorial changes made by others in that bin.
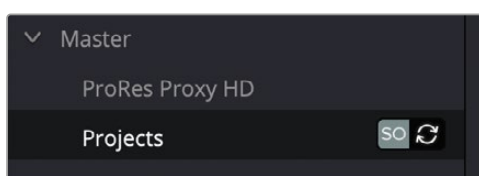
An icon indicates that another collaborator has made changes;
clicking it refreshes your project to show those changes

To release a bin or timeline, simply select another bin or timeline. It's that simple.

Managing Bin Locks Manually

You can also manually control the locked state of bins, during instances where you want to keep bins locked for future use or prevent them from becoming locked when you only want to browse the contents.

Keeping Bins Locked

If you want to lock one or more bins that you know you're going to be switching among to either prevent other collaborators from making changes or so that nobody else inadvertently prevents you from having access, you can right-click one or more selected bins and choose Lock Bins to lock them. Bins locked in this way remain locked, even when you deselect them, until you right-click them again and choose Unlock Bins. Other users will see your collaboration icon as well, so they will know who currently has the bin locked.
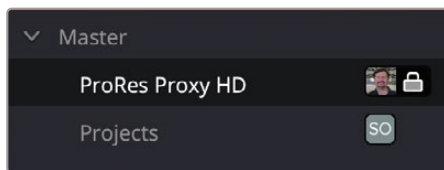
Manually locked bins stay locked even when they're not selected

Keeping Bins Unlocked

Additionally, you can choose to keep bins unlocked when selected. For example, you may just want to examine the contents of a bin without keeping someone else from editing its contents. In this case, simply Option-click any bin to open that bin in read-only mode, which is indicated by an eyeball badge to the left of that bin in the Bin list. In this mode, any other collaborator can still lock that bin while you're examining its contents. Selecting any other bin will clear this read-only status.
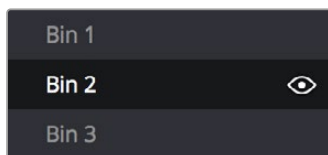
Selecting a bin in read only mode allows collaborators to lock that bin while you examine its contents

> **TIP:** While a bin is open but manually unlocked by you, you can still open clips into the Source Viewer and add markers to them, so long as another user doesn't select that same bin and lock you out.

Manually Locking and Unlocking Timelines

You can also manually manage the locking of timelines. Opening a timeline automatically locks other collaborators out of making changes to that timeline, but it does allow other users to modify the bin that timeline appears within. This allows for greater flexibility in setting up your Media Pool and avoids locking media or other timelines in the same folder. You can still manually choose to lock individual Media Pool bins to secure their contents independently.

To unlock a timeline to let other collaborators work on it:

— Right-click that timeline in the Media Pool and choose Timelines > Unlock Timeline from the contextual menu.

To lock a timeline preventing other collaborators from working on it:

1   Right-click that timeline in the Media Pool and choose Timelines > Lock Timeline from the contextual menu.

2   Other collaborators will be unable to modify the timeline while you have a lock on it, however they will be able to modify any other clips and timelines in the bin.

Automatic Clip Locking

Clip locking in the Fusion and Color pages works similarly. As multiple compositing artists work in the Fusion page, and multiple colorists work in the Color page, the first compositing artist or colorist to select any given clip has an automatic lock on that clip. Other compositing artists or colorists will see a badge on that clip in the Thumbnail timeline showing that it's locked as well as letting them know who has the lock. In the following screenshot, the SO badge in the corner of clip 7 in the Color page Thumbnail timeline indicates that clip is locked.
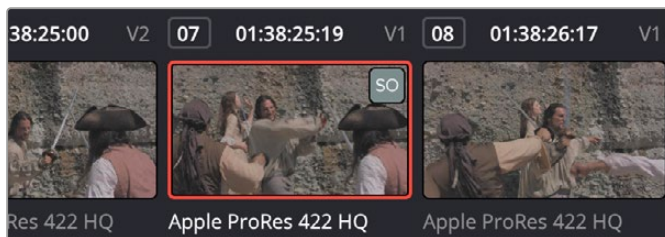
Badges in the Thumbnail timeline indicate which clips are locked because a collaborator is grading them

Automatically Checking In Work When You Change Clips

When you're finished with the clip you're working on, you need only select another clip for the changes you made to the previously selected clip to be automatically saved and pushed to all other colorists who are working on that timeline in the Color page. No refresh is needed. This is the main difference between clip locking in the Color page and bin locking.

Compositing Artists and Colorists Can Work Together

The Fusion page and Color page each maintain separate clip locks. This means that for any given pool of compositing artists, only one will be able to work on a given clip at a time, while in the Color page only a single colorist will be able to work on a clip at a time.

However, because Fusion and Color page clip locking is maintained separately, that means that one compositing artist and one colorist can work on a single clip in the timeline simultaneously, even while an editor is working on that timeline.

Receiving Changes Made by Collaborators

As you work collaboratively, it will be common for groups of compositing artists to be executing multiple compositions at a time, while colorist and their assistants will be working on the grade, and an editor and their assistants will be refining the edit, all working together within the same project.

Receiving Changes On the Edit Page

While compositors are compositing and colorists are grading clips within the same timeline of the same project, each clip that's adjusted in the Fusion or Color page triggers a Refresh badge to appear in three areas of the Edit page, so the collaborating editor(s) can decide when to update their timeline to see the changes that have been made.

— At the upper-right corner of the Timeline Viewer. Clicking this badge refreshes the composites and grades of all clips in the currently open Timeline.
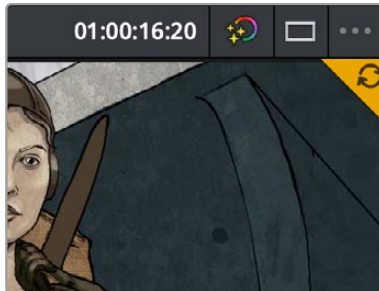
A clickable "update" badge appears in the corner of the Timeline Viewer for timelines with edits, grades, and composites that have been updated

— At the right of the bin containing the modified timeline in the Media Pool's bin list. Clicking this badge refreshes all clips in the Timeline within that bin.
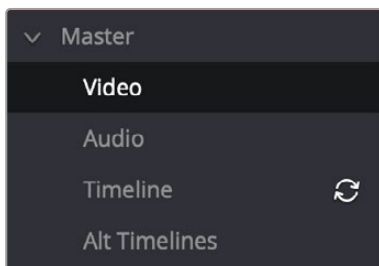
A clickable "update" badge appears over bins containing timelines in the Media Pool with edits, grades, and composites that have been updated

— At the upper-right corner of each modified clip in the Timeline.
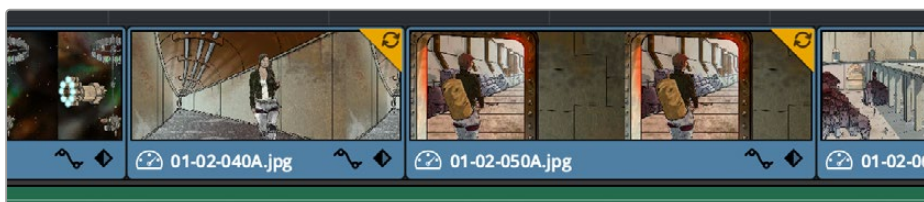
A clickable "update" badge appears over clips in the Timeline with edits, grades, and composites that have been updated

Receiving Changes On the Fusion and Color Pages

For collaborators working on the Fusion or Color pages, other badges indicate when editors have made changes to the Timeline, or when other compositing artists or colorists have made changes to other clips in that timeline.

— Timelines that you're locked out of because another collaborator has a lock on them are indicated by a badge at the upper-right corner of the Viewer, while changes made to the Timeline by editors on the Edit page are indicated by a refresh badge in the same location. Clicking this badge refreshes all clips in the Timeline.
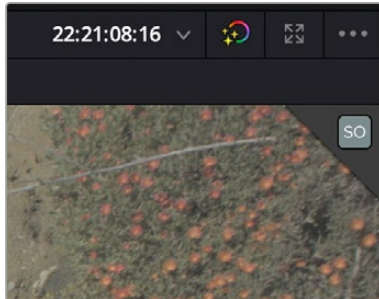
A badge in the Viewer shows that a viewer has a lock on this timeline

— If you open up the Media Pool, then a badge appears at the right of any bin in the Bin List that's been reorganized or that contains a modified timeline. Clicking this badge refreshes all clips in the Timeline within that bin.
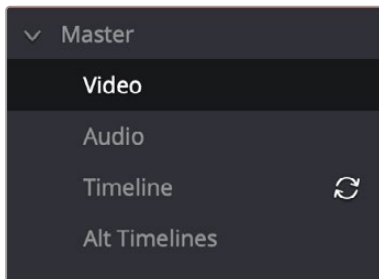
A badge appears to the right of bins in the Media Pool containing timelines that have been updated

— A badge appears at the upper-right corner of each clip in the Thumbnail timeline that's been modified by a fellow compositing artist or colorist. Clicking a single clip's badge updates that clip alone.
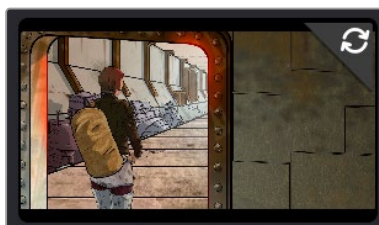
A badge appears over clips in the Timeline with grades that have been updated. Clicking this badge refreshes just that clip.

Examples of Collaborators Working Together

The first collaborator that opens a timeline is the only person that can make editorial changes to that timeline in the Edit or Fairlight pages. Other collaborators who open that project are "locked out" of making changes to the Edit or Fairlight pages, but they can see the Timeline, and they can make grading changes in the Fusion or Color pages. This means in situations where you want multiple editors to be working on a project, it can be ideal to organize your program into separate "reels," where each reel of a project is a separate timeline in a separate bin.

Multiple Editors Working Together

The first collaborator that opens a timeline is the only person that can make editorial changes to that timeline in the Edit or Fairlight pages. Other collaborators who open that project are "locked out" of making changes to the Edit or Fairlight pages, but they can see the Timeline, and they can make grading changes in the Fusion or Color pages. This means in situations where you want multiple editors to be working on a project, it can be ideal to organize your program into separate "reels," where each reel of a project is a separate timeline in a separate bin.

On the other hand, if two or more editors must both work on the same timeline, this can be accomplished using duplicate timelines and then merging the changes back together later on. For example, collaborating editor Anne can do the following to make changes to a timeline that editor Erin is already working on:

— First, Anne can duplicate the locked timeline into a separate bin from the one Erin has a lock on. Alternately, Erin could be proactive and duplicate the timeline into a separate bin in advance.

— Second, Anne will re-edit the duplicate timeline to make whatever changes are necessary to a different scene than the one Erin is currently working on. Working on different scenes is the cleanest and easiest way of using this workflow.

— Third, Anne uses Collaborative Chat to notify Erin that the changes are finished.

— Fourth, Erin then refreshes the project to see Anne's updated duplicate timeline in the Media Pool, right-clicks it, and chooses Compare With Current Timeline from the contextual menu to show the Timeline Comparison window that makes it possible to merge the changed section of the duplicate timeline with the original timeline that Erin already has open.

In the following screenshot, Erin's highlighted changes (made while Anne was working) can be seen at the left, and Anne's highlighted changes can be seen at the right. Right-clicking within the right highlighted area reveals an Accept Change command that lets that scene's changes be merged from the duplicate timeline back to Erin's original timeline.

Using the Compare With Current Timeline command lets you see the differences between two differently edited versions of the same timeline, and merge a scene's worth of changes that a collaborator has made (at right) back to the original timeline

For more information on comparing timelines, *see Chapter 34, "Creating and Working with Timelines."*

Editors and Assistant Editors Working Together

Collaborators can edit metadata, create new bins, and reorganize clips within unlocked bins only. This means that your project should be organized so that an editor can lock the contents of the bins they need to work with at a given point in time, while the assistants can work on additional timelines and media within other bins in that project.

However, in addition to being able to copy timelines from a locked bin to a bin that you control, you can also copy clips from one timeline to another. In this way, if you absolutely need to make changes to source clips while the original source clips are locked, you can make your changes to copies of these clips.

Editors and Compositing Artists Working Together

Editors and compositing artists can work together closely, since compositing artists can create compositions for one or more clips in a timeline while it's being edited, even though that timeline and the bin it's in are locked to other editors.

Here's an example of an editor working on a commercial spot with a lot of greenscreen material working together with one or more compositing artists.

— First, the editor cuts together each foreground clip with actors performing as a rough cut, and once that rough cut is assembled, they edit in the background clips that accompany each greenscreen clips to create a series of stack of clips.

— Second, the editor selects each stack of clips, one by one, and uses the New Fusion Clip command to create Fusion clips that the compositing artists can work on. By making each of these clips into Fusion clips, the editor is making it easy for the compositing artists to have access to all the clips necessary for each composition from within the Fusion page, collaboratively.

— At this point, the editor uses collaborative chat to notify the compositing artists that there are composites ready for them to work on, and the editor can then turn their attention back to refining the edit.

— Upon being notified that they can begin work, one or more compositing artists start working through the Fusion clip compositions while the editor is working, to create each multi-layered composite that's necessary. As each compositing artist finishes a clip and moves to a new clip to begin work, the editor sees a notification badge at the upper-right corner of each clip in the Timeline that's been composited, as well as notification badges in the Bin List of the Media Pool,

and at the upper-right corner of the Timeline viewer. Clicking any of these badges will refresh one or more of these clips, so the editor can see the changes.

Multiple Compositing Artists Working Together

To prevent versioning issues, only one compositing artist can work on a particular clip at a particular time in the Fusion page, and the first compositing artist to select a clip puts a lock on that clip. Other collaborators looking at the Thumbnail timeline in the Fusion page will see a small icon that shows it's locked, letting them know they can't make any changes to it until whoever is working on that composition moves to another clip.

A small icon indicates that you're locked out because another compositing artist is working on that clip

This means that multiple compositing artists can't work on the same composition at the same time. However, an assisting compositing artist can do preparatory work on one composition, such as doing rotosocoping, paint, particle system design, or any other time-consuming task, while a lead compositing artist works on another shot in the meantime. Once the assisting compositor is done, they can select another clip to work on and use collaborative chat to let the other compositor know they're done and that clip is ready for more work.

In order to prevent half-finished work from being disseminated to other collaborators, a clip that's in the process of being worked on in the Fusion page isn't updated for anyone else who's working on that same timeline until the compositing artist who's working on it selects another clip. Immediately upon being deselected, all changes are automatically checked in and made available to all other collaborators, who see notification badges in the Fusion page and the Edit page to alert them that changes are available and that they can refresh their timeline to see the updates.

Editors and Colorists Working Together

Colorists and editors can work together very closely in DaVinci Resolve, as colorists can grade the shots of a timeline that an editor is currently working on, even though that timeline and the bin it's in are locked to other editors.

From the colorist's point of view, whenever the editor makes an alteration to the Timeline, a badge appears at the upper-right corner of the Color page Viewer to indicate that a change has been made to the timeline being graded. Clicking this badge updates the timeline the Colorist is working on.

In order to prevent half-finished work from being disseminated to the editor (or worse, being seen by the client), clips that are in the process of being graded aren't updated for other collaborators that are looking at that timeline until the colorist who's working on it "checks in" their work by selecting another clip. So, from the editor's point of view, whenever a colorist has finished grading a clip and has selected another clip to grade, a series of badges appear in the Edit page, one on the clip that's

been graded, one on the Timeline Viewer and one on the bin in the Bin List that contains the Timeline. Clicking any of these badges updates the Timeline with the latest grades.

Multiple Colorists Working Together

Only one colorist can work on a particular clip at a particular time, and the first colorist to select a clip puts a lock on that clip. Other collaborators looking at the Thumbnail timeline in the Color page will see a small icon that shows it's locked, letting them know they can't make any changes to it until whoever is grading that clip moves to another clip.

A small icon indicates that you're locked out because another colorist is grading that clip.

In order to prevent half-finished work from being disseminated to other colorists or editors, a clip that's in the process of being graded isn't updated for other collaborators that are looking at that timeline until the colorist who's working on it selects another clip. These changes are then automatically made available to all other collaborators working in the Color page, who see badges appear in the Edit and Color pages to indicate which clips have updates available.

This makes it easy for multiple colorists to work together. For example, an assistant colorist can be notified via Collaborative Chat to draw a custom window that a senior colorist needs for a grade. The assistant opens that timeline in another suite, selects the appropriate clip, and draws the window. Once finished, the assistant simply selects a different clip, and the changes they've made are immediately available to the senior colorist, who sees a badge on that clip in the Thumbnail timeline and can click to update it.

Managing Notes Among Collaborators

If an editor wants to send a note to colorists or compositing artists, they can do one of the following:

— They can add a marker with note text to the Timeline ruler (the marker appears in the marker submenu in the Color page Viewer option menu)

— They can add a marker with note text to a clip (that marker appears in the mini-timeline of the Color page)

— They can color code clips in different ways to get the colorist's attention (clip color coding appears as a dot in the Thumbnail timeline).

— Of course, the editor and colorist can always interact via the collaborative chat window, as well.
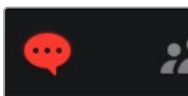
Collaboration Chat

To facilitate communication among collaborators, DaVinci Resolve has built-in text chat, called Collaboration Chat. Simply click the Collaboration Chat button to open the chat window, and chat away.
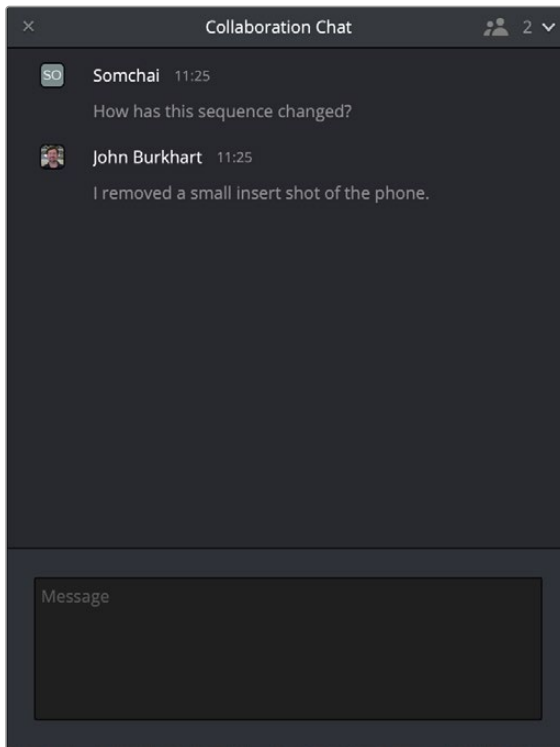
The Collaboration Chat window for communication among collaborators

The Collaboration Chat button at the bottom of the DaVinci Resolve interface highlights orange whenever someone texts while this window is closed, letting you know you have messages that are waiting.

The Collaboration Chat button highlights to let you know you have a message.

Remote Grading and Remote Monitor

This chapter describes how to set up Remote Grading using two separate DaVinci Resolve systems in different locations via the internet, to have one system remotely control the other for color grading.

While DaVinci Remote Monitor allows you to stream a high quality video signal from one DaVinci Resolve system to another workstation over the internet or on the same network.

Contents

Introduction to Remote Grading

To enable colorists to work interactively with clients across the globe, DaVinci Resolve offers a remote grading option. It allows two matching DaVinci Resolve systems to be synchronized via an Internet connection such that changes made on the colorist's workstation are immediately applied on the remote client's workstation.

Cue commands are also synchronized to ensure that both systems are always on the same frame in the Timeline. Starting or stopping playback on the colorist's DaVinci Resolve also starts and stops the remote client system. While a remote grading session is in progress, input from the user at the remote client's DaVinci Resolve workstation is ignored.

Currently, the remote grading feature supports only color correction and does not allow editing or conforming during a session. The two colorist and remote DaVinci Resolve systems must have matching timelines and the number of clips, clip durations, and system resolutions must match. The requirements and limitations of a remote grading session are summarized below.

Requirements for Remote Grading

— The same version of DaVinci Resolve must be installed on both systems.

— The Timeline to be graded must be conformed on both machines prior to the start of the remote grading session.

— The number of clips on the Timeline and the duration of each clip must be identical.

— While grading, the active Timeline and versions on the remote client system are constantly updated. Creating, deleting, or switching the Timeline on the client's DaVinci Resolve is not allowed. Doing so will terminate the remote grading session immediately.

— You cannot make any grading adjustments on the remote client's DaVinci Resolve workstation until the remote grading session has ended.

> **NOTE:** Remote grading does not require a shared project library.

Setting Up for Remote Grading

To start a remote grading session, the client's DaVinci Resolve must be able to connect to the colorist's system using TCP/IP.

1 Open DaVinci Resolve on the remote client's workstation (the one that's being remotely controlled), log in, and open the project that will be remotely graded.

2 Choose Workspace > Remote Grading (Ctrl-G) on the remote client's workstation. A window is displayed with text fields to enter the IP address and port number of the colorist's system.

3. Set the IP address field to the IP of the colorist's DaVinci Resolve workstation. If the colorist's system already has a public IP address, the port number can be left at its default value (15000). If the colorist's system is on a private network, the colorist or their network administrator should set the port number to one on the public IP router that is internally routed to port 15000 of the colorist's DaVinci Resolve.

4. Once the remote client clicks Connect, the client's DaVinci Resolve system will attempt to establish a connection with the remote colorist's workstation.

5. Once the connection is established, a pop-up appears on the colorist's screen asking for permission to accept a Remote Grading connection.

6. Click OK to accept, minimize the size of this dialog window, and continue grading normally.

The Remote Grading session will remain active until one of the users chooses to disconnect or an error occurs causing DaVinci Resolve to automatically terminate the session.

Remote Grading Restrictions

To allow operation over low bandwidth and a potentially long latency Internet connection there are some restrictions to remote operation.

— When playback is started, the playback speeds on the two DaVinci Resolve systems may differ. The frame positions are only guaranteed to be synchronized when playback is stopped.

— Input/output/display LUTs applied from the Config page on the colorist's DaVinci Resolve will not have any effect on the client system. LUTs selected on the client's DaVinci Resolve will be applied instead.

— Presets applied from the Config/Color pages on the colorist's system will not have any effect on the client's system. Presets selected on the client's DaVinci Resolve will be applied instead.

DaVinci Remote Monitor
(Studio Version Only)

DaVinci Remote Monitor is an application that allows you to have access to a low latency, high quality video signal over a network for monitoring, editing, and color grading purposes. The DaVinci Remote Monitor shows the output of the host's Viewer in real time as they work in DaVinci Resolve. This allows producers to monitor a session, while editors and colorists have the ability to work remotely using the DaVinci Resolve interface and a data stream from a remote DaVinci Resolve workstation. This data stream is of high enough quality that you can run the signal through a Blackmagic DeckLink or UltraStudio device to a grading monitor and have the same confidence in the output as if it was connected locally.

The stream quality can be adjusted for your particular needs and available bandwidth. For example, an editor may only need an HD h.264 8-bit 4:2:0 codec for offline editing, while a colorist may need the full UHD h.265 12 bit 4:4:4 RGB codec for HDR grading.

> **NOTE:** For clarity in this section we will refer to the main DaVinci Resolve workstation in the post house or data center that is streaming the video as the "Resolve Host" and the devices that are receiving the stream as the "Resolve Clients." However, in reality these are all just devices running the same version of the DaVinci Resolve Studio and the DaVinci Remote Monitoring apps.

Requirements for DaVinci Remote Monitor

In order to reliably stream a high-quality video signal from one system to another, there are some technical hardware and software limitations and requirements for the Host and Clients.

The Resolve Host must have the following hardware and software requirements for DaVinci Remote Monitor:

— The Resolve Host needs to have the Mac, Linux, or Windows version of DaVinci Resolve Studio installed.

— For Linux and Windows users, the Resolve Host needs an RTX series NVIDIA GPU and drivers installed. AMD and Intel GPUs are currently unsupported.

— The Host must have a Blackmagic Cloud account.

The Resolve Client must have the following hardware and software requirements for DaVinci Remote Monitor:

— The Resolve Client needs to have the Mac, Linux, or Windows version of DaVinci Resolve Studio installed. The DaVinci Remote Monitor App is automatically installed in the same folder as DaVinci Resolve.

— Apple iPhone and iPad devices are supported as Client platforms. Download the DaVinci Remote Monitor app from the App Store (The Studio Version of DaVinci Resolve is not required on these devices).

— For Linux and Windows users, the Resolve Client needs an RTX series NVIDIA GPU and drivers installed. AMD and Intel GPUs are currently unsupported.

— All Clients must have a Blackmagic Cloud account.

Setting Up DaVinci Remote Monitor

Setting up a Remote Monitor session is easily done from the DaVinci Resolve Studio interface: additionally, the Host and all Clients must have Blackmagic Cloud accounts.

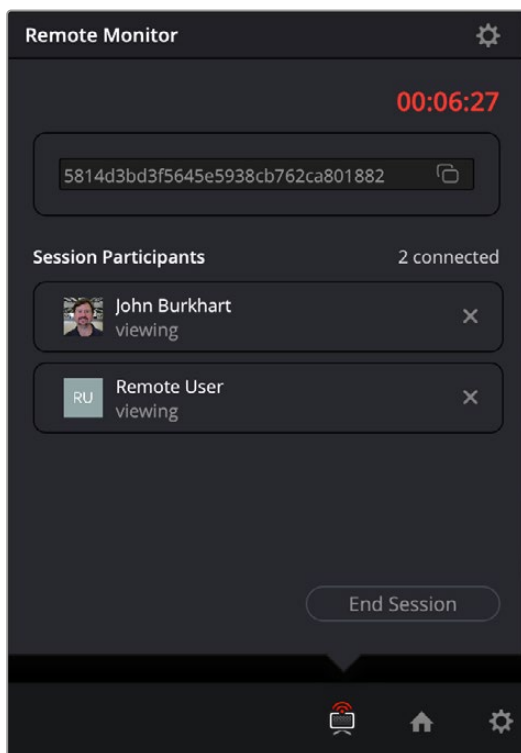**To Start a DaVinci Remote Monitor session as the Resolve Host:**

1   The Resolve Host needs to be running the full DaVinci Resolve Studio version of the software.

2   Select Workspace > Remote Monitor.

3   Sign into your Blackmagic Cloud account, if necessary.

4   In the Remote Monitor Window, select the Video Codec and Bitrate you wish to use for the session. Please note, the Video Codec used must be one that all the client devices support. For maximum compatibility, H.264 4:2:0 8-bit is a good choice, however accurate color monitoring may necessitate using another 10- or 12-bit codec instead. Bandwidth needs to increase with the number of clients that are connected. While Remote Monitoring over the internet is possible, the best performance will be had with a wired ethernet connection.
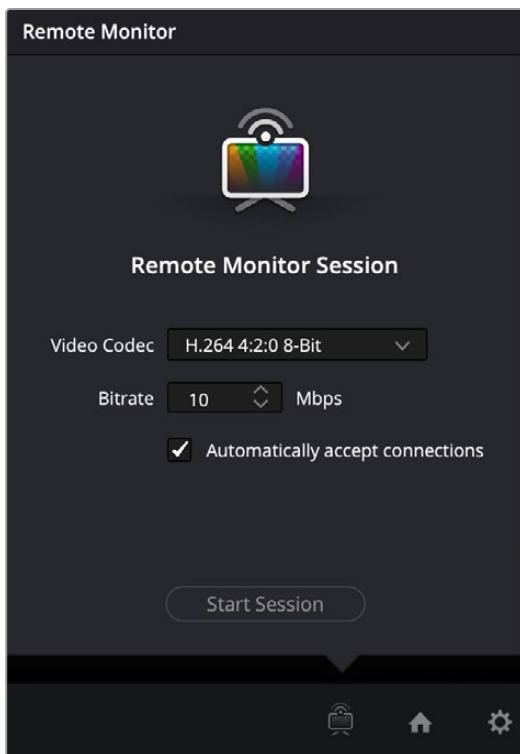
The DaVinci Remote Monitor Session Setup

5   Check the "Automatically accept connections" box to let anyone with the Session Code connect directly. If you wish to approve each connection manually, uncheck this box.

6   Click the Start Session button.

7   Copy the generated Session Code from its field, and disseminate it to all the Resolve Clients via email, text message, etc.
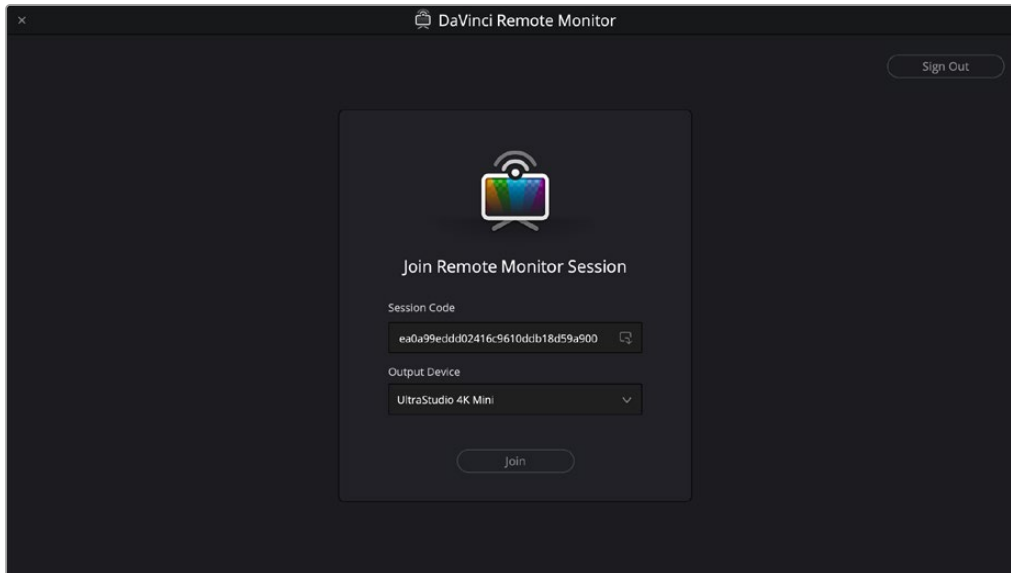
At this point your Remote Monitor has started, and a timer will show the duration of the current session. A Remote Monitor icon will appear in the lower right of the DaVinci Resolve interface, and the top of it will turn red to indicate that at least one Client has connected and you are now "live." A Session Participants field shows you who is currently connected as a Client.

The DaVinci Remote Monitor showing the time connected and the participants involved

To Connect to a DaVinci Remote Monitor session as a Resolve Client:

1   The Resolve Client needs to have the full DaVinci Resolve Studio version of the software installed, or the iOS app installed.

2   Launch the DaVinci Remote Monitor app on your device. This is found in your DaVinci Resolve folder on your computer where you installed the software.

3   Sign into your Blackmagic Cloud account.

4   Paste the Session Code you received from the Resolve Host into the provided field.

5   Select the Output Device you wish to use for monitoring. This can be a connected computer display, or a Blackmagic Decklink or UltraStudio device for color accurate monitoring.

6   Click the Join Button.

The DaVinci Remote Monitor app Join screen

At this point your Remote Monitor window will appear, and you will see and hear the output of the current viewer of the Resolve Host as they work.

NOTE: Remote Monitoring uses WebRTC to initiate connections between DaVinci Resolve Studio and multiple clients. However, some heavily restricted network setups may still block the initiation of a session, and a VPN may be required. A wired connection is recommended for the best performance.

To End a DaVinci Remote Monitor session as the Resolve Host:

1 Click on the DaVinci Remote Monitor icon in the lower right of the interface.

2 Click on the End Session button to stop the Remote Monitor for all users, or click on the X next to the name of a Client to disconnect the session for that user only.

To Leave a DaVinci Remote Monitor session as a Resolve Client:

1 Make the DaVinci Remote Monitor app active (not the Remote Monitor window).

2 Click on the Leave button to end your session.

To Change the Codec and Bitrate of a current DaVinci Remote Monitor session as the Resolve Host:

1 Click on the DaVinci Remote Monitor icon in the lower right of the interface.

2 Click on the Settings icon in the upper right of the Remote Monitor window.

3 Select a new Codec and Bitrate for the video stream.

4 Click on the Save Button.

This will change the streaming settings to the new codec and bitrate that you chose. Existing Clients will be automatically reconnected to the new stream without having to do anything on their end. This lets you easily change the quality of the video stream on the fly to compensate for bandwidth and hardware issues.

DaVinci Remote Monitor Restrictions

There are currently some limitations to the DaVinci Remote Monitor application to be aware of.

— When connecting over the internet, bandwidth restrictions can hamper performance. If the bandwidth drops too low or cuts out completely, the Host will disconnect with an error message.

— Currently DaVinci Remote Monitor only works in the Media, Cut, Edit, Color, and Deliver pages.

— Currently Audio is limited to only 2 channels.

— Currently on the Color page, GUI viewer overlays (for power windows, reference wipes, Open FX controls, etc.) do not display in the DaVinci Remote Monitor application.