



Database Management

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Using Databases

Even though DaVinci Resolve works with disk databases by default, which save user-accessible project files to a disk location of your choosing, many users prefer the previously standard method of postgres database project management. Fortunately, this can be easily enabled. Resolve works from an internal database server, so it's possible to create multiple databases for maximum flexibility in organizing your projects. For example, you might create a database for each year, for each month, for each multi-episode series you work on, or any other organizational criteria that makes sense for the kinds of projects on which you work. Furthermore, facilities with multiple Resolve systems can implement a shared Remote Database Server.

Tip: However you elect to organize your databases, keep in mind that smaller databases with less project data load and save faster.

If you're upgrading from an older version of DaVinci Resolve, you'll already be using an SQL database since that was the only method of working previously. As usual, you'll be prompted to upgrade your previous database when you open Resolve.

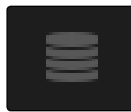
In either case, this section covers how to go back and forth between database management, and independent project management.

Switching to an SQL Database

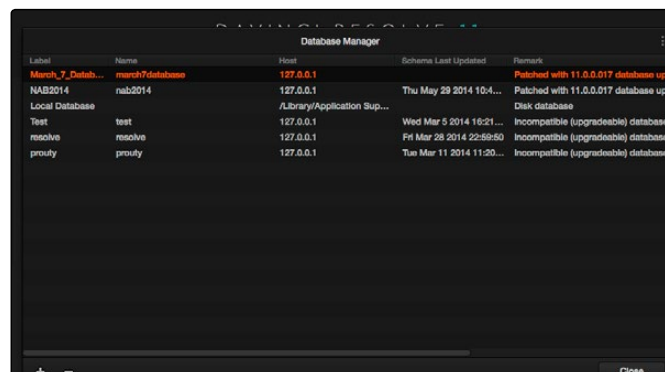
To switch to SQL database project management, you need to open the Database Manager and create a new database for Resolve to use.

To switch to database management:

1. If necessary, click the Back to Log In button to return to the Login screen.



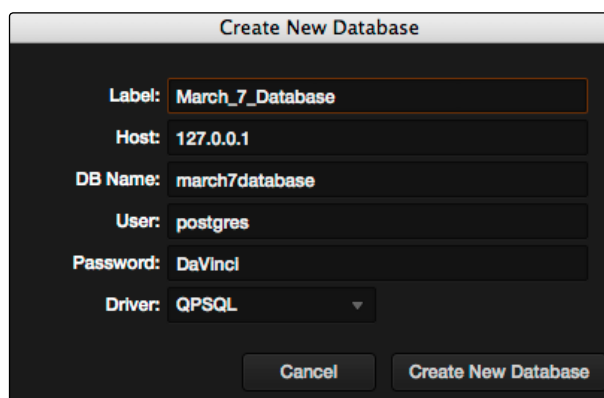
Database Manager button



Database Manager window

The Database Manager appears.

2. Click Create New (the Plus button).
3. In the “Create a New Database” dialog that appears, make the following changes:



Creating a new database

- Type a name for the database into the Label field. This is the name you’ll see, so choose something readable and clear, but avoid using special characters.
 - Type an abbreviated, lower caps version of this name into the DB Name field. This name must be unique to the other databases currently in the list, but you cannot use spaces or special characters in this field.
 - Make sure the Driver pop-up menu is set to QPSQL. This guarantees that you’re creating a database, and not a directory reference for project-based management.
4. Click OK to create the database, and click OK when you’re prompted that the database has been created successfully.
 5. To begin using that database, select it in the list, and click Select.

DaVinci Resolve will now save projects into that database.

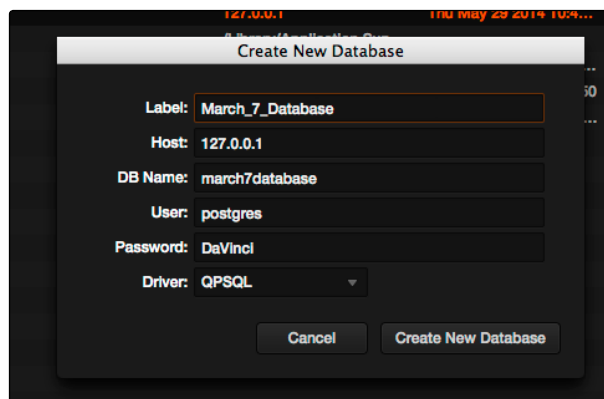
Switching to a Disk Database

If you're already using databases, and you'd like to switch to the simpler Disk Database approach, this is also easy to do using the Database Manager, but you'll be creating a different kind of item in the list. This is also the way you choose which directory Resolve uses to save the projects created by a particular User.

Note: Linux systems can only use an SQL database, while OS X and Windows systems can use either an SQL database or disk database management.

To switch to project-based management:

1. If necessary, click the Back to Log In button to return to the Login screen.
2. Click the Database button at the bottom right of the Login screen to open the Database Manager window.
3. Click Create New (the Plus button).
4. In the "Create a New Database" dialog that appears, make the following changes:



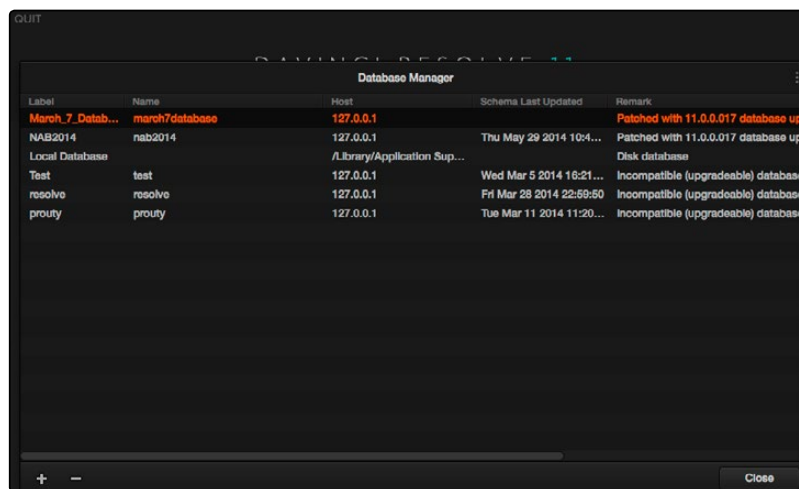
Dialog for creating a new database

- Choose DISK from the Driver pop-up menu. This disables most of the fields that are available.
 - Click the Host field, then choose a location and create a directory using the File Browser dialog that appears. When you're ready, select the directory you want to use, and then click Choose.
 - Type a name into the Label field so you can identify this disk location.
5. Click OK.
 6. To begin using that Disk database, select it in the list, and click Select.
- DaVinci Resolve will now save projects directly to that disk directory.

Working With the Database Manager

The Database Manager is where all databases are managed, whether they're traditional SQL-based databases, or Disk databases that allow direct project-based management.

While there's a lot of project management you can do from the Project Manager, if you're using databases, the Database Manager is critical for providing the interface to upgrade, create, backup, restore, and select databases on your system.



Database Manager window

What's in a Database?

To provide a better understanding of why databases are useful, it helps to know how data is managed within each database. The following is the hierarchy of information that's stored within each database:

Database > Users > Projects > Timelines > Clips > Timecode > Versions > PTZR/Grade

In plain English, each database is organized into a number of users. Each user is a container that holds one or more projects that are unique to that user. Each project contains one or more timelines, and each timeline contains one or more clips. Each clip contains a range of timecode and a reel, each of which points to three independent sets of adjustment data: Source settings (such as R3D or ALEXA metadata), and versions that contain pan/tilt/zoom/rotate/3D (PTZR) settings, and grades, which are applied to each clip in that order.

Where Are My Disk Databases, Anyway?

In the exceptionally rare instance that your system administrator needs to know where your DaVinci Resolve database is located, due to some catastrophic occurrence, every database that Resolve creates is located within a file hidden deep within your system with a location determined by the operating system you're using:

On OS X:

Library/Application Support/Blackmagic Design/DaVinci Resolve/ Resolve Disk Database

On Windows:

C:\ProgramData\Blackmagic Design\DaVinci Resolve\Support\Resolve Disk Database

This is primarily useful to know if only to demonstrate the importance of backing up your entire system to make sure this critical file is preserved. Do not, under any circumstances, remove, rename, or attempt to edit this file. The consequence of failure is the loss of all your database-managed project information.

Note: Linux cannot use disk databases, and only uses SQL databases.

Database Management

Here's a breakdown of all the commands that are available for managing the databases used by Resolve. The Create Database (+) and Disconnect Database (-) buttons are located at the bottom left of the Database Manager; all other commands are available from the Options pop-up menu at the upper right corner.

Methods of database management:

- **New Database:** Click Create New to add a new database to the Database list. See the previous section for more information on how to do this.
- **Delete Database:** Select a database and click this button to delete it, along with all users and projects inside of it. It's highly recommended to back up databases you're about to delete in case you later decide you need to retrieve their contents.
- **Select:** To choose a new active working database, click on a database from the list and click Select. This database will now be used for saving all new projects. Other Internal, Remote, and Disk databases will continue to appear in this list, and you can import projects from those databases using the Group Projects browser in the Project Manager. However, whenever you save a project, regardless of its origin, it will be written to the active working database selected here.

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- **Restore:** If you have previously backed up a database, or have one from another system you can restore this database over the original or create a new empty database to restore to. Select the destination database and then click "Restore." Navigate using the open Finder to the database you wish to restore and select "Open." You then need to confirm to overwrite the database you selected as the destination and the database will be restored.
 - **Backup:** You back up databases like any other file. This provides added protection should your system drive fail, or a backup can be used to move multiple projects between systems. Selecting 'Backup' will open the Finder window and you can define the file name and location to back up. Be sure not to change the .backup extension.
 - **Optimize:** If the database in Resolve becomes so large that it affects performance, you may need to optimize it to improve access speed. Click "Optimize" and the database will be vacuumed of unnecessary spaces and reindexed.
 - **Upgrade:** If you have databases that were created using previous versions of DaVinci Resolve, they probably need to be upgraded to be accessible. It's generally a good idea to back up any database you're planning to upgrade, in case something goes wrong.
 - **Connect:** If you are connecting to a Remote Database Server, click Connect, change the IP address in the Host field to the IP address of the computer you've set up as the Remote Database Server, then type the remote database's name into the DB Name field. Accept the default "postgres" entry in the User field for all new databases with full read/write access, or change this to "MySQL" for read-only access to legacy DaVinci databases. For more information on Remote Database Servers, see the next section of this chapter.
 - **Disconnect:** Disconnects databases to which you've previously connected, whether they're local on your machine or connected to via a Remote Database Server.

Note: You cannot actually delete databases in DaVinci Resolve, you can only disconnect them so they don't appear in the Database list. However, disconnected databases can still be reconnected if you remember their name. The only way to completely delete a database entry in PostgreSQL is to do so from the command line, or to use the PGAdmin III application that accompanies the PostgreSQL installation that's part of the Resolve installation process.

Configuring and Using a Remote Database Server

Multiple DaVinci Resolve systems can also work on the same project at the same time using a shared database, which is enabled by setting up a Remote Database Server. Once you've set one up, there are two ways of using a shared database.

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- The simplest case is for one user to open up a project, with subsequent users opening the same project in Read Only mode. For example, an assistant could be working with the colorist to prepare files for the next reel by conforming shots, managing VFX replacements, doing dust busting repairs, and so on. Using a Remote Database Server in this way, Resolve automatically prevents two users from working on the same project by creating a copy of a project that's already in use, and any changes made will have to be in this duplicate project.
 - Alternately, you can use the Collaborative Workflow features introduced in Resolve 11 to enable an owner to open up a project on a Shared Database, and multiple collaborators to open the same project, with all participants actually writing data to the same project file. The rule with collaborative workflow is that the first person to open a project, the owner, is the only one who can make editorial changes to the Timeline. Collaborators can grade and edit Media Pool metadata, but they cannot alter edits in the Timeline.

However you decide to work, the Database Server can be one of the actively used Resolve workstations, or it can be another computer on your network with DaVinci Resolve installed that simply hosts your projects (a dongle or video card is not required). All machines participating in a collaborative workflow must be on the same network.

Use of a separate workstation to operate as the Remote Database Server is recommended for facilities with more than two DaVinci Resolve systems, to ensure that something as simple as a user shutting down their system doesn't make all projects suddenly unavailable. By clicking the Connect button in the Database Manager, you can enter the information that enables a connection to the remote database.

For more information on setting up and using a Remote Database Server, see Chapter 17, "Collaborative Workflow."

About Locked Projects

Large projects being worked on in parallel can be split into sections, so multiple colorists can work simultaneously in different suites. For example, a feature film may be split into reels, or the film separated from the trailer and video press kit. Each section can use grades from the other segments as required to keep the shots balanced.

If you are sharing a database with other DaVinci Resolve systems, but you're not using Collaborative Workflow, then some of the projects will appear with a Lock icon to the left of the project name. When a shared project is loaded, it is automatically locked in Read-only mode to prevent multiple users from accessing the project at the same time. If you load a locked project and make changes anyway, you'll need to save a new project file using a new name to preserve your work.

To unlock a project:

- Log in as Admin, and then click the Unlock button.

Remote Grading

Requirements

The following requirements must be met for remote grading to work.

- The same version of DaVinci Resolve must be installed on both systems.
- The display resolution must be the same 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.

Setup

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 View > 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.

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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.

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.