

# LiveCode 8.0.2 Release Notes

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## Overview

LiveCode 8.0 brings important new capabilities to all LiveCode developers:

- Use new custom controls and libraries in your applications, including a new browser widget.
- Extend LiveCode with the new LiveCode Builder language
- Deploy to HTML5 and run your application in a web browser
- Many other improvements!

## Simplify design with widgets

With LiveCode 8.0, your apps are set free from using the small range of user interface controls that were previously available in LiveCode. The LiveCode engine now lets you load custom controls, called widgets, and use them in your apps just like any other control.

LiveCode comes with a selection of widgets that simplify creating many commonly-needed sets of controls in mobile apps, and if they aren't enough, you can download and install widgets created by members of the LiveCode development community and third-party vendors.

One of the most exciting new widgets introduced in LiveCode 8.0 is the browser widget. It replaces the revBrowser external with a much more powerful and flexible browser control that's easier to use and more reliable.

The LiveCode IDE has also been extended and revised in order to support widgets and other extensions. Widgets are now available in the "Tools" palette, and installed extensions can be viewed in the "Extension Manager". The dictionary has been extended to include extension documentation.

## Extend Livecode with LiveCode Builder

In LiveCode 8.0, the well-known LiveCode scripting language is joined by a brand new programming language called LiveCode Builder. LiveCode Builder looks a lot like LiveCode script, and should be easy to learn for any experienced LiveCode developer.

Using LiveCode Builder, it is now possible to extend LiveCode with new controls and libraries without any need to program in C or C++. The IDE has a new "Extension Builder" tool that helps developers test, debug and package their extensions.

For more information, please refer to the "Extending LiveCode" guide and the "LiveCode Builder" section of the dictionary.

**Note:** LiveCode Builder is a new and experimental language. There is no stability guarantee for the language or its standard libraries. Be aware that the language syntax or features may change incompatibly in future versions of LiveCode!

## Deploy to the browser with HTML5

The LiveCode 8.0 engine now runs on a new platform: the web browser. The LiveCode engine now runs as a JavaScript library in an HTML page, allowing users to run your application without having to install anything.

For more information, please refer to the "HTML5 Deployment" guide.

**Note:** The HTML5 platform is very different to the other platforms that LiveCode supports, and many engine features are either unsupported or work differently.

## More!

LiveCode 8.0 includes many other enhancements, including:

- more powerful and complete clipboard access, sponsored by [FMProMigrator](#)
- 64-bit Mac standalone deployment, SSL support for PostgreSQL connections, and "find and replace" that preserves text style, all sponsored by the community Feature Exchange
- optimised Unicode text processing
- Unicode printing on Linux
- a new JSON library extension
- greatly improved native theming on desktop platforms
- a new IDE Start Center and interactive tutorial

## Known issues

- The installer will currently fail if you run it from a network share on Windows. Please copy the installer to a local disk before launching on this platform.
- The browser widget does not work on 32-bit Linux.
- 64-bit standalones for Mac OS X do not have support for audio recording or the `revVideoGrabber` external.

## Platform support

The engine supports a variety of operating systems and versions. This section describes the platforms that we ensure the engine runs on without issue (although in some cases with reduced functionality).

## Windows

LiveCode supports the following versions of Windows:

- Windows XP SP2 and above
- Windows Server 2003
- Windows Vista SP1 and above (both 32-bit and 64-bit)
- Windows 7 (both 32-bit and 64-bit)
- Windows Server 2008
- Windows 8.x (Desktop)
- Windows 10

**Note:** On 64-bit Windows installations, LiveCode runs as a 32-bit application through the WoW layer.

## Linux

LiveCode supports Linux installations which meet the following requirements:

- Supported CPU architectures:
  - 32-bit or 64-bit Intel/AMD or compatible processor
- Required dependencies for core functionality:
  - glibc 2.13 or later
- Optional requirements for GUI functionality:
  - GTK/GDK/Glib 2.24 or later
  - Pango with Xft support
  - esd (optional, needed for audio output)
  - mplayer (optional, needed for media player functionality)
  - lcms (optional, required for color profile support in images)
  - gksu (optional, required for privilege elevation support)

**Note:** If the optional requirements are not present then LiveCode will still run but the specified features will be disabled.

**Note:** The requirements for GUI functionality are also required by Firefox and Chrome, so if your Linux distribution runs one of those, it will run LiveCode.

**Note:** It may be possible to compile and run LiveCode Community for Linux on other architectures but this is not officially supported.

## Mac

The Mac engine supports:

- 10.6.x (Snow Leopard) on Intel
- 10.7.x (Lion) on Intel
- 10.8.x (Mountain Lion) on Intel
- 10.9.x (Mavericks) on Intel
- 10.10.x (Yosemite) on Intel
- 10.11.x (El Capitan) on Intel

## iOS

iOS deployment is possible when running LiveCode IDE on a Mac, and provided Xcode is installed and has been set in LiveCode *Preferences* (in the *Mobile Support* pane).

Currently, the supported versions of Xcode are:

- Xcode 4.6 on MacOS X 10.7

- Xcode 5.1 on MacOS X 10.8
- Xcode 6.2 on MacOS X 10.9
- Xcode 6.2 and 7.2 on Mac OS X 10.10
- Xcode 7.3 on MacOS X 10.11

It is also possible to set other versions of Xcode, to allow testing on a wider range of iOS simulators. For instance, on Yosemite, you can add *Xcode 5.1* in the *Mobile Support* preferences, to let you test your stack on the *iOS Simulator 7.1*.

We currently support the following iOS Simulators:

- 6.1
- 7.1
- 8.2
- 9.2
- 9.3

## Android

LiveCode allows you to save your stack as an Android application, and also to deploy it on an Android device or simulator from the IDE.

Android deployment is possible from Windows, Linux and Mac OSX.

To enable deployment to Android devices, you need to download the [Android SDK](#), and then use the 'Android SDK Manager' to install:

- the latest "Android SDK Tools"
- the latest "Android SDK Platform Tools"

You also need to install the Java Development Kit (JDK). On Linux, this usually packaged as "openjdk". LiveCode requires JDK version 1.6 or later.

Once you have set the path of your Android SDK in the "Mobile Support" section of the LiveCode IDE's preferences, you can deploy your stack to Android devices.

Some users have reported successful Android Watch deployment, but it is not yet officially supported.

## HTML5

LiveCode applications can be deployed to run in a web browser, by running the LiveCode engine in JavaScript and using modern HTML5 JavaScript APIs.

HTML5 deployment does not require any additional development tools to be installed.

LiveCode HTML5 standalone applications are currently supported for running in recent versions of [Mozilla Firefox](#), [Google Chrome](#) or [Safari](#). For more information, please see the "HTML5 Deployment" guide in the LiveCode IDE.

## Setup

## Installation

Each version of LiveCode installs can be installed to its own, separate folder. This allow multiple versions of LiveCode to be installed side-by-side. On Windows (and Linux), each version of LiveCode has its own Start Menu (or application menu) entry. On Mac OS X, each version has its own app bundle.

On Mac OS X, install LiveCode by mounting the `.dmg` file and dragging the app bundle to the `Applications` folder (or any other suitable location).

For Windows and Linux, the default installation locations when installing for "All Users" are:

Platform	Path
Windows	<code>&lt;x86 program files folder&gt;/RunRev/LiveCode &lt;version&gt;</code>
Linux	<code>/opt/livecode/livecode-&lt;version&gt;</code>

The installations when installing for "This User" are:

Platform	Path
Windows	<code>&lt;user roaming app data folder&gt;/RunRev/Components/LiveCode &lt;version&gt;</code>
Linux	<code>~/.runrev/components/livecode-&lt;version&gt;</code>

**Note:** If installing for "All Users" on Linux, either the `gksu` tool must be available, or you must manually run the LiveCode installer executable as root (e.g. using `sudo` or `su`).

## Uninstallation

On Windows, the installer hooks into the standard Windows uninstall mechanism. This is accessible from the "Add or Remove Programs" applet in the windows Control Panel.

On Mac OS X, drag the app bundle to the Trash.

On Linux, LiveCode can be removed using the `setup.x86` or `setup.x86_64` program located in LiveCode's installation directory.

## Reporting installer issues

If you find that the installer fails to work for you then please report it using the [LiveCode Quality Control Centre](#) or by emailing [support@livecode.com](mailto:support@livecode.com).

Please include the following information in your report:

- Your platform and operating system version
- The location of your home or user folder
- The type of user account you are using (guest, restricted, admin etc.)
- The installer log file.

The installer log file can be located as follows:

Platform	Path
Windows 2000/XP	<documents and settings folder>/<user>/Local Settings/
Windows Vista/7	<users folder>/<user>/AppData/Local/RunRev/Logs
Linux	<home>/ .runrev/logs

## Activating LiveCode Indy or Business edition

The licensing system ties your product licenses to a customer account system, meaning that you no longer have to worry about finding a license key after installing a new copy of LiveCode. Instead, you simply have to enter your email address and password that has been registered with our customer account system and your license key will be retrieved automatically.

Alternatively it is possible to activate the product via the use of a specially encrypted license file. These will be available for download from the customer center after logging into your account. This method will allow the product to be installed on machines that do not have access to the internet.

## Command-line installation

It is possible to invoke the installer from the command-line on Linux and Windows. When doing command-line installation, no GUI will be displayed. The installation process is controlled by arguments passed to the installer.

Run the installer using a command in the form:

```
<installer> install noui [OPTION ...]
```

where <installer> should be replaced with the path of the installer executable or app (inside the DMG) that has been downloaded. The result of the installation operation will be written to the console.

The installer understands any of the following **OPTION**s:

Option	Description
-allusers	Install the IDE for "All Users". If not specified, LiveCode will be installed for the current user only.
-desktopshortcut	Place a shortcut on the Desktop (Windows-only)
-startmenu	Place shortcuts in the Start Menu (Windows-only)
-location LOCATION	The folder to install into. If not specified, the <b>LOCATION</b> defaults to those described in the "Installation" section above.
-log LOGFILE	The file to which to log installation actions. If not specified, no log is generated.

**Note:** the command-line installer does not do any authentication. When installing for "All Users", you will need to run the installer command as an administrator.

As the installer is actually a GUI application, it needs to be run slightly differently from other command-line programs.

On Windows, the command is:

```
start /wait <installer> install noui [OPTION ...]
```

## Command-line uninstallation

It is possible to uninstall LiveCode from the command-line on Windows and Linux. When doing command-line uninstallation, no GUI will be displayed.

Run the uninstaller using a command of the form:

```
<uninstaller> uninstall noui
```

Where `.setup.exe` on Windows, and `.setup.x86` on Linux. This executable, for both of the platforms, is located in the folder where LiveCode is installed.

The result of the uninstallation operation will be written to the console.

**Note:** the command-line uninstaller does not do any authentication. When removing a version of LiveCode installed for "All Users", you will need to run the uninstaller command as an administrator.

## Command-line activation for LiveCode Indy or Business edition

It is possible to activate an installation of LiveCode for all users by using the command-line. When performing command-line activation, no GUI is displayed. Activation is controlled by passing command-line arguments to LiveCode.

Activate LiveCode using a command of the form:

```
<livecode> activate -file LICENSEFILE -passphrase SECRET
```

where `<livecode>` should be replaced with the path to the LiveCode executable or app that has been previously installed.

This loads license information from the manual activation file `LICENSEFILE`, decrypts it using the given `SECRET` passphrase, and installs a license file for all users of the computer. Manual activation files can be downloaded from the [My Products](#) page in the LiveCode account management site.

It is also possible to deactivate LiveCode with:

```
<livecode> deactivate
```



Since LiveCode is actually a GUI application, it needs to be run slightly differently from other command-line programs.

On Windows, the command is:

```
start /wait <livecode> activate -file LICENSE -passphrase SECRET
start /wait <livecode> deactivate
```

On Mac OS X, you need to do:

```
<livecode>/Contents/MacOS/LiveCode activate -file LICENSE -passphrase SECRET
<livecode>/Contents/MacOS/LiveCode deactivate
```

## Engine changes

### Specific engine bug fixes (8.0.2-rc-4)

- 17953 Fix regression to Mac window moveStack handling
- 17962 Ensure the defaultStack hasn't been deleted before resetting it
- 17981 Fix regression on retained external object reference
- 18090 Ensure mergExt externals that don't support mobile platforms don't include a lcxtext file
- 18093 Fix a heap corruption issue due to an incompletely cleared object proxy.

### Specific engine bug fixes (8.0.2-rc-3)

- 15366 Correctly update stack rectangle when moving to a different screen
- 17571 Fix PDF display in CEF-based browser widget (Windows, Linux)
- 17615 Fix crash when printing preview of card with browser widget on OSX
- 17620 Fix javascript handlers of browser widget not callable on Android
- 17720 Document MetaCard compatible pattern numbers
- 17725 Add support for pattern numbers to backdrop
- 17800 Ensure all parameters are included when using send script
- 17802 Document how to escape special characters in wildcard filter patterns
- 17839 Corrected mistaken key name in Info.plist file on iOS standalone
- 8212 Correct mapping of pattern number to image id
- 9778 Fix 'cut tVar' where tVar contains an object text chunk

### Specific engine bug fixes (8.0.2-rc-1)

- 12953 Last character of dragdata["files"] is no longer cut off

- 14790 Ensure modal color dialog blocks menus and shutdown requests
- 17330 Correct error in revLibURL's default HTTP headers
- 17366 LCPostOnMainThread fails from aux thread in external on Android
- 17384 Fix issues with clipboard data property docs
- 17468 Fix crash when deleting the target object in a front or back script.
- 17578 List of patterns over indented in docs
- 17590 Insert item into a field line beyond range correctly
- 17624 Fix crash on Android in the files and folders functions
- 17652 Fix 'delete tVar' where tVar contains an object text chunk
- 17666 Fix crash when getting the effective leftIndent/rightIndent/firstIndent
- 17695 Improve "highlight" glossary entry
- 17731 Prevent anomalies when revert used in html5 standalone building
- 17733 Make sure borderColor of line chunk returns borderColor
- 17737 Screen should be force unlocked after resizeStack message is sent
- 17738 Fix potential crash on startup on Mac
- 3263 Fix drag select of grouped controls outside clipped rect

## IDE changes

### Specific IDE bug fixes (8.0.2-rc-2)

- 17769 Ordering stacks by chosen preference in project browser

### Specific IDE bug fixes (8.0.2-rc-1)

- 14003 Make sure enabling a palette from the menubar does actually show the palette, in case it is hidden
- 17414 Placed Groups are no longer incorrectly deleted via dialog
- 17417 Update value of variables in visualizers when stepping through script
- 17441 Ensure revSelectedObjectChanged is sent to plugins
- 17450 Ensure check marks in project browser match selected preference
- 17470 Ensure arrowKey messages are passed to user stacks in browse mode
- 17566 BMI tutorial- Correct key combination when setting header title
- 17638 Window menu now shows stack names instead of stack titles
- 17669 BMI tutorial- Header widget script should contain cWeight instead of cWidth
- 17727 Make it possible to launch the PDF version of the User Guide from the Resource Center
- 17735 Application browser now responds correctly to various events
- 17742 Selecting browse tool should exit edit group mode

## LiveCode extension changes

### Line Graph widget

## Properties

- Throw an error when the **graphData** property is set to an invalid value, such as an empty string.

## Specific extension bug fixes (8.0.2-rc-3)

17373 enable setting local timezone, make local default

## Specific extension bug fixes (8.0.2-rc-1)

17692 Prevent errors in onPaint with empty graphData

17790 Make sure the mouseAction is properly updated when clicking on the headerbar widget

## Dictionary additions

- **documentFilename** (*property*) has been added to the dictionary.
- **fullClipboardData** (*property*) has been added to the dictionary.
- **newWidget** (*message*) has been added to the dictionary.
- **rawClipboardData** (*property*) has been added to the dictionary.
- **scriptOnly** (*property*) has been added to the dictionary.
- **widget** (*object*) has been added to the dictionary.

## Previous release notes

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- [LiveCode 8.0.0 Release Notes](#)
- [LiveCode 7.1.4 Release Notes](#)
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