/ Tutorials & Guides

Get a LiveCode Desktop or Mobile App to Communicate with a MariaDB/MySQL Database Your LiveCode desktop or mobile app may need to store data on, or retrieve

data from, a MariaDB/MySQL database located on a remote server, such as on your HostM hosting account. For security reasons, we recommend creating a HTTPS-based API layer for

this purpose, rather than having your LiveCode desktop or mobile app connect remotely to MariaDB/MySQL via its direct port 3306.

100% FREE LiveCode-MariaDB/MySQL HTTPS-Based **API Solution/Demo**

System Requirements

We've created a basic 100%-LiveCode API solution with full **UTF-8 support**

that you can use as a starting point for your projects.

On the server side, you'll need a hosting setup running a minimum of LiveCode

Server 6 (8.1.0 or later recommended), access to either MariaDB or MySQL, and an SSL-secured domain. HostM offers all of these features, but you may

use any hosting setup that meets these requirements.

Remember to have an **SSL certificate** installed on your domain to ensure that

all communication is encrypted. If you have a hosting account with HostM, contact us via the Client Lounge to request for the installation of a FREE SSL certificate from Let's Encrypt on your hosted domain. On the client side, you may use a minimum of LiveCode 6.7.9 through 6.7.11,

Features The following features are currently available: HTTPS POST for secure transmissions

• Built-in authentication via API key Integrity verification via SHA-1 checksums • Full UTF-8 support for multilingual support Manage your data via native LiveCode arrays

• .1c server-side script

• .livecode server-side sample stack

• .livecode server-side library stacks

.livecode client-side library stacks

files that you need to set up on the server.

with your actual cPanel username).

need it later.

- sql sample MariaDB/MySQL database .livecode client-side sample stack
- Free Download
 - Download LiveCode-MariaDB/MySQL HTTPS API Solution 1.1.4

4. On the same page, under "Add User To Database", assign the newly-

5. Click the phpMyAdmin icon in your cPanel.

7. Click the SQL tab at the top.

the large field in phpMyAdmin.

click the **name** of your newly-created database.

demo MariaDB/MySQL database is now ready!

test@example.com as its email address.

api-demo-server-mariadb.livecode.

cPanel.

Browse and you'll see a default sample entry listed, with

- 8. In the server-side folder from the download, you'll find a file named users.sql.
- 3. You'll notice that there's also an API key specified within the stack script. Change it to any strong random string you wish, then copy it, as you'll need to paste it into another stack shortly. 4. In the client-side folder from the download, you'll find a stack named api-demo-client-mariadb.livecode.
- **Uploading the Server-Side Stacks** 1. Sign in to your hosting account via FTP and create a folder in its root
- **Uploading the Server-Side Script**

1. In the server-side folder from the download, you'll find a file named

2. Open that file in a plain text editor, then change the path (if necessary) to

the exact location of the stack named api-demo-server-

into the main web folder for your domain name. If you're on a cPanel-based account, you would typically upload the file into the folder public_html/example.com, where example.com is

3. Using your FTP app, upload the api-demo-script-mariadb.lc script

If all goes well, you should see the message: There is already a user in the database with the email: [test@example.com]. This is because the demo database does indeed already contain a user

3. Without modifying any of the fields, click the Create User button.

tasks as an intermediary between your LiveCode client app and your MariaDB/MySQL database. **Building a Test Standalone from the Demo**

6. Also check out the stack script of the server-side stack api-demo-

5. If using LiveCode 6 or 7: Click Copy Files in the top icon bar, then click Add File... and select the accompanying stacks libHttpsApiClient.livecode

• Click Copy Files in the top icon bar, and ensure that

File... and select the accompanying stack

libHttpsApiClient.livecode.

7. If using **LiveCode 8.1 and up**:

com.livecode.library.json is selected. Also click Add

JSON Library Internet SSL & Encryption Answer Dialog

Ask Dialog

9. Save your stack.

standalone application(s).

LiveCode as well as from standalones

installed on your domain.

tsNet (if available)

• Ensure that you have a valid SSL certificate installed on the domain from which you're running the API layer. If you're hosting with HostM, contact us via the Client Lounge to request for a free SSL certificate to be

Connects fine from within LiveCode, but not from standalones

• Review the Building a Test Standalone from the Demo section above to

Create Your Own LiveCode HTTPS-Based API Layer

HTTPS-based API layer to allow your LiveCode desktop and mobile apps to

This HTTPS-based API solution can be used in conjunction with LiveCode

HTML5 apps, just as with desktop and mobile apps. Nevertheless, most

LiveCode-based web projects don't actually require or involve LiveCode

Use ideas and knowledge gained from the demo stacks to create your very own

Connection or timeout errors when connecting from within

HTML5 at all. For more information about the differences between LiveCode Server and LiveCode HTML5, check out our article LiveCode Server vs LiveCode HTML5

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or, for built-in Unicode support, LiveCode 7.1.2 and up (8.1.0 or later recommended).

 Auto-conversion to industry-standard JSON for transmission The API solution comprises:

The latest version of the HTTPS-Based LiveCode-MariaDB/MySQL API solution, which we'll update from time to time, can be downloaded below:

Setting Up the Test MariaDB/MySQL Database 1. Sign in to your cPanel and click MySQL Databases.

2. Create a MySQL database named example_apitest (replace "example"

3. Create a MySQL user named example_apitest (replace "example" with

created user to the newly-created database, with all privileges checked.

6. In the left-column, click the + sign next to your cPanel username, then

your actual cPanel username). Make a note of the password, as you'll

9. Open that file in a plain text editor, then copy and paste its content into

10. Click the Go button. You should see the message "MySQL returned an

empty result set (i.e. zero rows)", and there should be no errors. Your

To further verify that you've added the demo table correctly, click the

Structure tab at the top and you should see the users table listed. Click

Configuring Your LiveCode Stacks 1. In the server-side folder from the download, you'll find a stack named

2. Open that stack in LiveCode, then edit the stack script and modify the

database name, user and password to the ones you've just created in

API key appropriately. 6. You'll notice that there's also a HTTPS URL specified within the stack script. Change the domain example.com to your actual domain name. 7. Edit the scripts of each of the three buttons and change the value of

tProfile to match the one you're using in the stack script.

(outside the public_html folder) and name it stacks.

8. Save both stacks, then exit LiveCode.

api-demo-script-mariadb.lc.

mariadb.livecode on the server.

api-demo-client-mariadb.livecode.

2. Open that stack in LiveCode.

with that email.

the client app works.

4. Click the Retrieve User button.

5. Open that stack in LiveCode, then edit the stack script and paste in the

- 2. Using your FTP app, upload the stacks ending with .livecode from the server-side folder into the newly-created stacks folder on the server.
- your actual domain name. **Testing Your Demo Setup**

1. In the client-side folder from the download, you'll find a stack named

In the Output field, you should see the details of the record retrieved from the MariaDB/MySQL database on the server.

5. Experiment with entering various bits of data, clicking the buttons, and

checking out their scripts (as well as the stack script) to understand how

server-mariadb.livecode to see how you can customize it to perform

1. In the client-side folder from the download, you'll find a stack named api-demo-client-mariadb.livecode. 2. Open that stack in LiveCode.

If building for Mac, Windows, and/or Linux, click General in the

If building for iOS, click iOS in the top icon bar, then enable the

• If building for **Android**, click Android in the top icon bar, then

topicon bar, then enable the Internet and SSL & Encryption

3. Select File > Standalone Application Settings.

4. If using LiveCode 6, 7, or 8.0.x (but not 8.1 and up):

script libraries.

Encryption external.

and libJson.livecode.

6. If using LiveCode 8.0.x (but not 8.1 and up):

- enable the SSL & Encryption external.
- Click Copy Files in the top icon bar, then click Add File... and select the accompanying stack libHttpsApiClient.livecode. • Click Inclusions in the top icon bar, then enable the following:

• If building for **Android**, click Android in the top icon bar, then

under Application Permissions, enable Internet.

10. Select File > Save as Standalone Application to build your

8. Close the Standalone Application Settings window.

inclusions for the standalone application.

• Click General in the top icon bar, then enable the option Select

- **Troubleshooting Checklist** If you're running into issues connecting to the API layer, have a look at the following:
- communicate with MariaDB/MySQL databases. Feel free to extract and implement any code snippets from the demo as needed for your projects.

What About LiveCode HTML5 Apps?

ensure that your standalone settings are correct.

Should you have any questions or suggestions, or require further assistance, simply open a Client Care ticket via the secure **Client Lounge** and we will be happy to assist. Even if you're not a hosting client, feel free to get in touch via our visitor contact form.

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Full List of Features

Instructions The download consists of two folders: the client-side folder contains stacks you run from your desktop, while the server-side folder contains

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