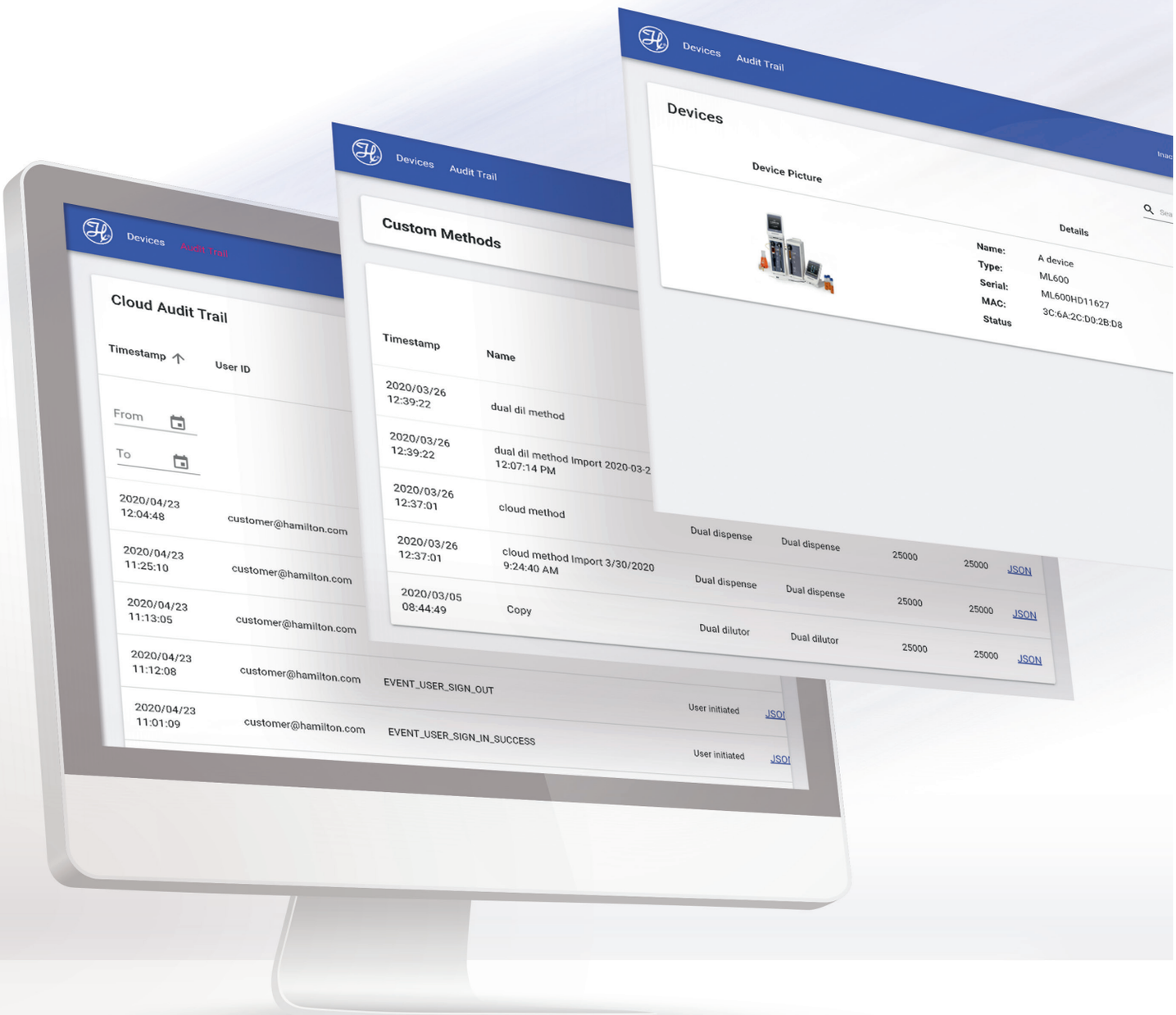
HAMILTON®

LyncStore 700

Operation and API Manual



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1 Welcome

Welcome to the World of Hamilton Precision Instruments.

Congratulations on your purchase of a Hamilton Microlab 700 Premium instrument. Hamilton Microlab 700 Premium comes with the LyncStore 700 software.

LyncStore 700 is a software for data collection, visualization, and management of your Microlab 700 instrument. It supports both cloud and offline installation. LyncStore 700 combines fault-tolerance and performance so you will never lose your data.

The LyncStore 700 functions of the principle of real time device connectivity. It creates a real time data backup and restore of your Microlab 700 instrument. LyncStore 700 comes with a REST API for remote control the Microlab 700 Premium Instrument from LIMS.

Hamilton Company would like to thank you for your purchase of the Microlab 700 Premium.

2 Intended Use

LyncStore 700, the PC-based management system from Hamilton allows users to manage the Microlab 700 Premium diluters and dispensers from local area network (offline version) or internet (Cloud Version). It allows the user to view, print, manage, filter, archive, export and import Favorites, Custom Methods, Logs, Audit Trail and Configuration settings.

LyncStore 700 meets 21 CFR Part 11 and FDA GMP/GLP requirements making it a valuable addition to regulated labs or labs with increased security protocols.

2.1 LyncStore 700 Offline Server

The LyncStore 700 offline is an application that can be installed on the server or PC of the laboratory. Alternatively, a preinstalled LyncStore 700 installation can be purchased together with a One-Touch-Server. By using the Lyncstore 700 offline system, no data leaves the local area network of the laboratory.

2.2 LyncStore 700 Cloud

The difference between LyncStore 700 Cloud and LyncStore 700 offline is that the instead of having a local application, the application is already installed and maintained online. That means that you will have access to all of the LyncStore 700 features, anywhere where you have access to the internet.

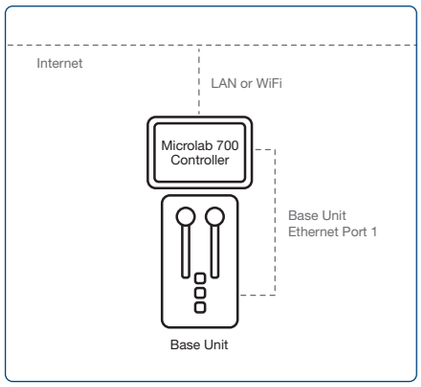
2.3 Privacy Policy

For information about our privacy policy, please visit our website: www.hamiltoncompany.com/privacy-policy

3 Setup LyncStore 700 Cloud

3.1 Connection Diagram

To setup the LyncStore 700 cloud connect the Microlab 700 instrument to the internet.

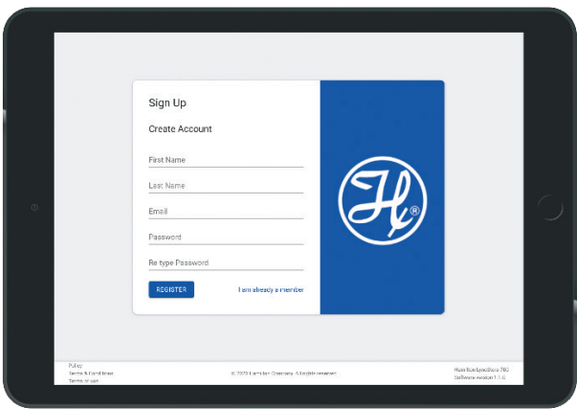


3.2 Open the LyncStore 700 Application

Access the LyncStore 700 software by accessing the following link: **https://mllyncstore700.com**

3.3 Create a LyncStore 700 Account

On the sign-in page, press the *Sign-Up* button and create a user account.



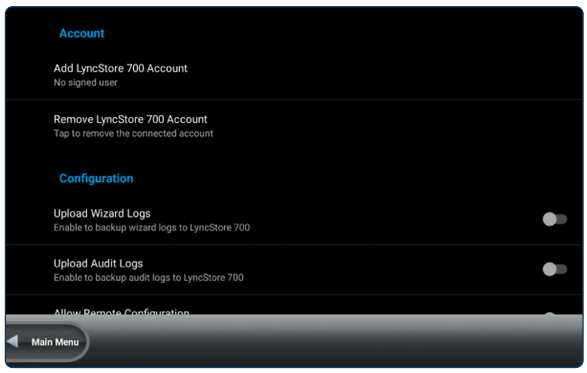
Create New Account

To create a new account, you need to do the following steps:

1. Open the LyncStore 700 Webpage
2. Click on *sign up*
3. Fill the sign-up form
4. Press *Register*
5. Confirm the activation link received via email

3.4 Add LyncStore 700 Account to Microlab 700 Premium Instrument

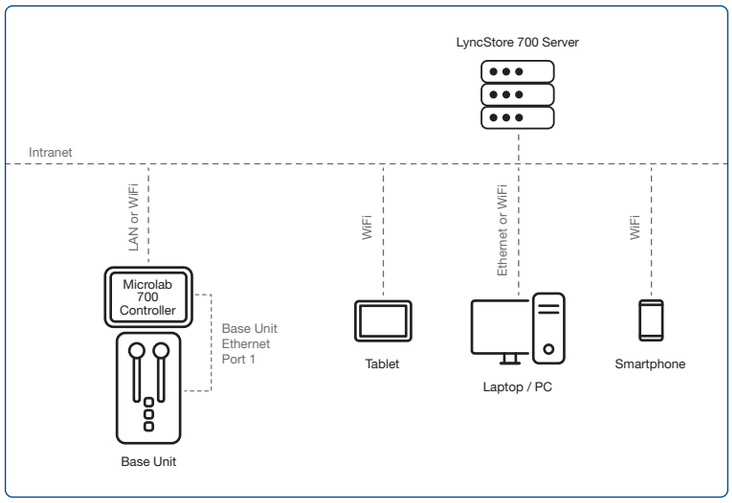
On the Microlab 700 Premium Instrument, enter the LyncStore 700 settings. Press the *Add LyncStore 700 Account* button to open a LyncStore 700 authentification page. To link your LyncStore 700 account with the instrument, enter the email and password of the created account and press *OK*.



4 Setup LyncStore 700 Offline Server

4.1 Connection Diagram

To setup the LyncStore 700 offline you are required to connect the Microlab 700 instrument with your local area network (LAN). The Microlab 700 instrument and the LyncStore 700 offline server must be connected to the same LAN.



4.2 Open the LyncStore 700 Application

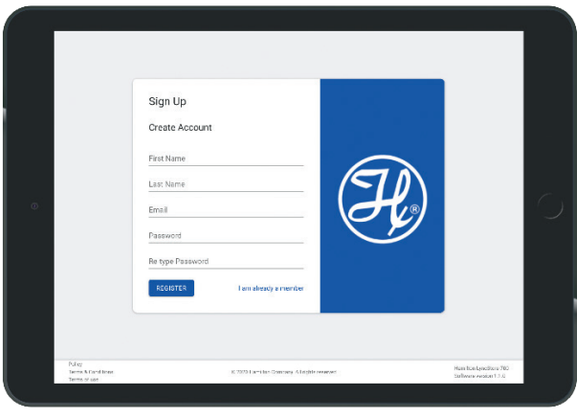
To open the LyncStore 700 application, enter the IP address of the LyncStore 700 Server or the name of the server into an internet browser that is connected to the same LAN.

http://lyncstore700

4.3 Create a LyncStore 700 Account

On the sign-in page, press the *Sign-Up* button and create a user account.

To login as Admin, please enter «admin» as username and «123456» as password. Change the password after first login.



Create New Account

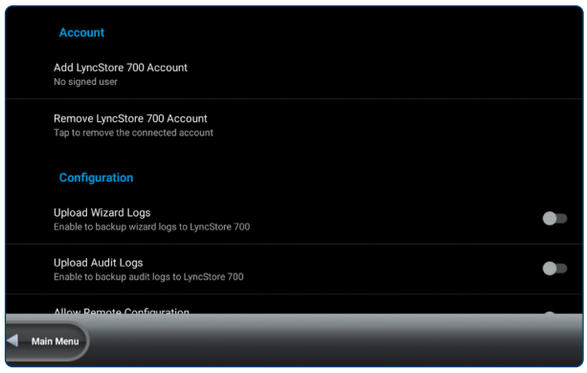
In order to create a new account, you need to do the following steps:

1. Open the LyncStore 700 Application
2. Click on *sign up*
3. Fill the sign-up form
4. Press *Register*

4.4 Add LyncStore 700 Account to Microlab 700 Premium Instrument

On the Microlab 700 Premium Instrument, enter the LyncStore 700 settings.

1. Select the Base Server Address list entry. Enter the IP address of the LyncStore 700 Server or the name of the server. For example: *http://192.168.60.121* or *http://lyncstore700*
2. Press the *Add LyncStore 700 Account* button to open a LyncStore 700 authentification page. To link your LyncStore 700 account with the instrument, enter the username and password of the created account and press *OK*.



5 Offline Installation and Update

If you choose to install the offline version of LyncStore 700, it must be installed and updated manually. For the online cloud version, no installation or manual updating is required.

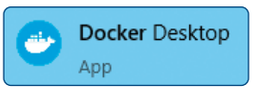
5.1 System Requirements for Offline Installation

- Windows 10 64-bit: Pro, Enterprise, or Education (Build 15063 or later).
- Hyper-V and Containers Windows features must be enabled.
- The following hardware prerequisites are required to successfully run Client Hyper-V on Windows 10:
  - 64-bit processor with Second Level Address Translation (SLAT)
  - 4GB system RAM
  - 4GB free storage
  - BIOS-level hardware virtualization support must be enabled in the BIOS settings

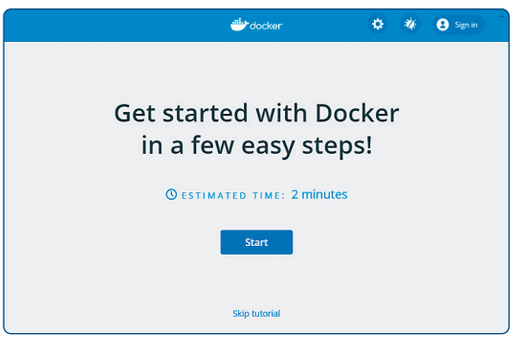
5.2 Installation on Windows

5.2.1 Docker Installation

1. Download Docker for Windows using the link: *www.docker.com/products/docker-desktop*
2. Double-click *Docker Desktop Installer.exe* to run the installer.
3. When prompted, ensure the Enable Hyper-V Windows Features option is selected on the Configuration page.
4. Follow the instructions on the installation wizard to authorize the installer and proceed with the install.
5. When the installation is successful, click *Close* to complete the installation process.
6. Open Docker app from start menu
   (open start menu using windows key on your keyboard or icon in the left-bottom corner)

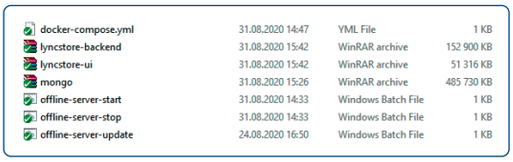


7. When app opens press *Skip tutorial*

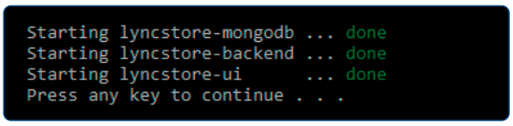


5.2.2 First Installation

1. Extract files from archive OfflineServer.rar
2. The archive contains following files:



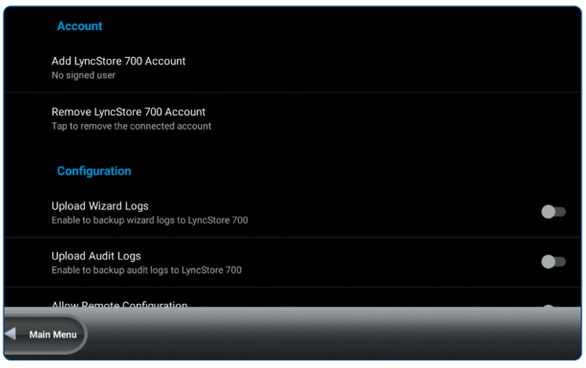
3. On the first launch, double click on *offline-server-update* file. This will load server into your Docker instance
4. Double click *offline-server-start* file to launch server.



5. Press any key and window will close. Your server is ready to use.
6. Server restarts with system, but in case it does not, just run offline-server-start again.

5.2.3 Connection to Microlab 700

1. On your Microlab 700 instrument, go to *Configuration* > *LyncStore 700*.
2. Select the *Base Server Address* setting.
3. Enter *http://<server-IP-address>:8080* into the field. Replace <server-IP-address> with the IP address of the server.
4. Make sure your controller and server are on the same network
5. Click *Test connection* to check if the LyncStore 700 server can be reached. If the LyncStore 700 server can be reached, the LyncStore 700 software version is shown.



5.2.4 System defaults

Backend port : 8080

To access the LyncStore 700, enter the Url *http://<server-ip-address/* into your browser. Make sure your browser is connected to the same network.

Default login:

- **Username : admin**
- **Password : main_admin_password**

5.3 Update of LyncStore 700 Offline Version

1. Perform a full data backup before installing an update.
2. Download the newest version of LyncStore 700 from Hamilton website and execute the steps of installation same as in subchapter 5.2.2

5.4 Compatible Browsers

- Microsoft Edge
- Google Chrome
- Mozilla Firefox

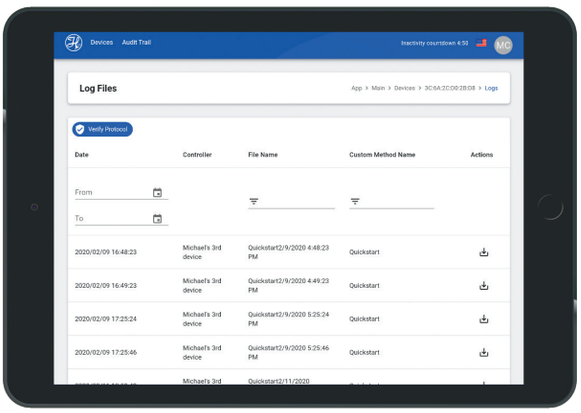
6 Operation

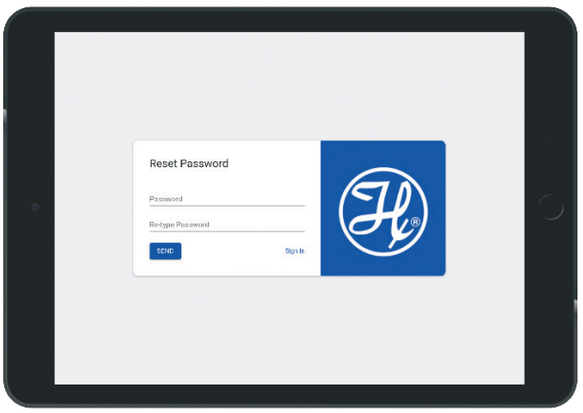
This chapter describes the LyncStore 700 operation.

6.1 Reset Password

To reset your password, you need to do the following steps:

3. Open the cloud website.
4. Click on *Forgot Password*.
5. Type in the email of the account, that you wish to reset its password.
6. You should receive an email, containing a link that will enable you to reset your password. Click on that link.
7. Type your new password and confirm.

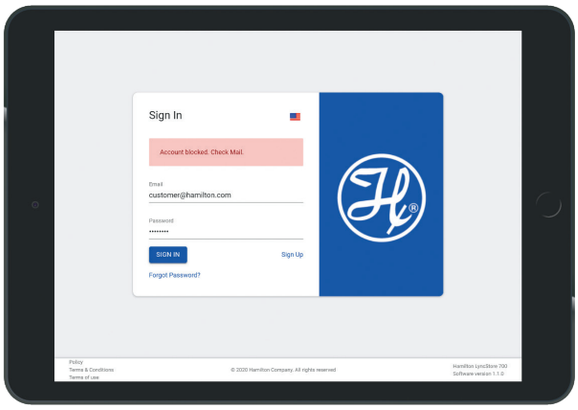




After this, you can sign into your account with the new password.

6.2 Blocked account

For security reason if someone tries to sign in with an email with a wrong password more than six times, the account gets blocked until the password is reset. The following message should appear.

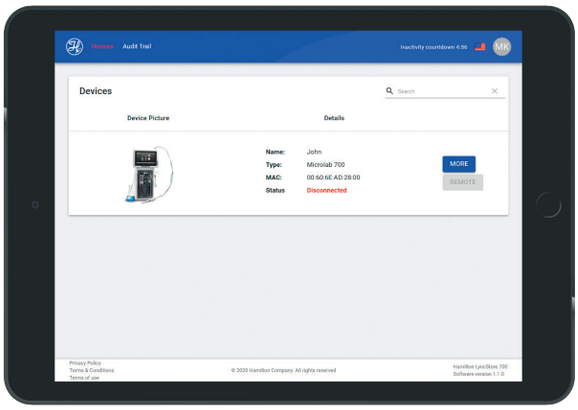


This provides security from brute force; it is a technique to prevent attacker that write a software to test every combination of characters possible to determine a password.

To gain back access to your account, open the reactivation link that you will receive on your email.

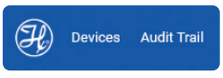
6.3 Main Menu

The following image represents the main menu of the cloud. It appears after a user log in.



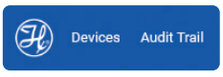
Devices button

If you are in another page, this button takes you back to the main menu where the list of the devices is.



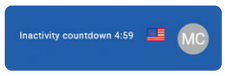
Audit trail button

This button takes you to the audit trail of the cloud account, where all action on the cloud account are recorded.



Countdown

This is a timer of 5 minutes which starts when the user is not active. If the countdown is over, it logs out automatically from the account.



Language selector

Click on the flag, in order to change the language of the interface.

Profile Info

Click on the icon with your user initials, in order to log out or open the page where you can manage your profile.

Devices

This field show the list of the devices connected to the logged in account.

Details of a connected device

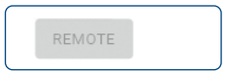
Here you can see find the name, type, serial, MAC address and the status of the connected device.

More button of a connected device

Here you can choose to either open the device audit trail, the device logs, favorites or custom methods.

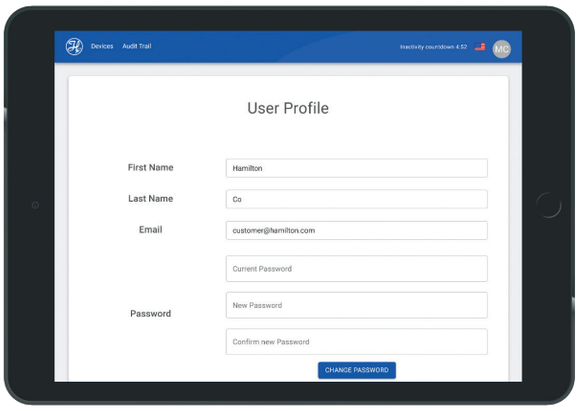
Remote button of a connected device

It opens a page that allows you to remotely manipulate the data of a device from the cloud.



6.4 Manage user profile

To access the page that allows you to manage your profile, you need to click on the logo on the top-right and then click on *Profile*.



This page shows you the first name, last name, and the email of the logged in user. It also allows you to change the password. To do that you need to type your current password on the Current Password field and then type the new password in New Password and Confirm new Password fields. Then click on *Change password*, after that you can sign in with the new password.

6.5 Device List

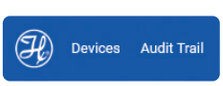
As mentioned in the previous subsection, all devices connected to the account logged in are shown in the main menu. From the list you have basic information about each device such as its name, type, serial, MAC address and the status.

If you click on *More*, you will have 4 options:

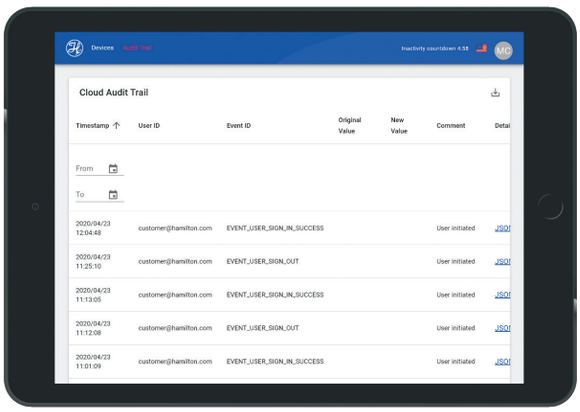
- **Logs**
  This will show you details about the executed wizards. More about it in chapter 6.7.2
- **Audit trail**
  This will show you the audit trails of the connected device. More about it in chapter 6.6
- **Favorites**
  It shows the list of the favorites of the wizards made by the users and with details. More about it in
- chapter 6.7.3
- **Custom Methods**
  It shows the list of the custom methods that the device has. More about it in chapter 6.7.4

If you click on *Remote*, it opens a page that allows you to manipulate the devices configurations settings remotely.

6.6 Audit Trail



To access the cloud audit trail page, please click on the *audit trail* button located on the website navigation bar.



Every time a user logs in or out or exports a file or changes the parameters of the cloud or of a device remotely, their action will be logged as events in the cloud audit trail.

The audit trails of the cloud show a list of important events logged. Every event consists of the following information: Timestamp, User ID, Event ID, Original value, New value, Comment, Details.

Timestamp

The exact time in which the event has occurred.

User ID

The email or unique ID of the user that has done the action.

Event ID

The ID of the logged event. Every action event has its own event ID.
For example: EVENT_USER_SIGN_IN_SUCCESS for a successful authentication.

Original value

If the event is about a parameter that has been changed, the original value should appear here.

New value

If the event is about a parameter that has been changed, the new value should appear here. However, for some actions it can contain further information of the action. For example, if a new device is added, the new value would be the mac address of the device.

Comment

Shows if the event is initiated by the cloud or a device. It says either «User initiated» which means from the cloud or «Device <Mac address> initiated» with the mac address of the device that initiated the event.

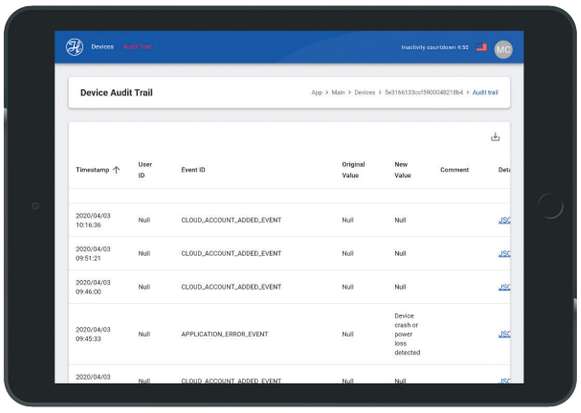
All important events are logged and can be viewed anytime by opening this page. As important events we have user sign in, user sign out, password change, personal information changed, etc.

You can sort the list of events logged by time or alphabetically by the other information. In order to do that, click on the information you need to sort it by. For example, click on *timestamp* to sort it by time or click on *User ID* to sort it by User ID.

6.7 Device Options

6.7.1 Audit Trail

To access the audit trail of a device page, you need to be in the main page. Then you need to find the desired device and click on *More > Audit trail.*



Every critical change or important event happens in the device, such as hardware or software parameters change or device shut down because of power loss, should be logged in the audit log of the device. More information about the audit trail of the device can be found in the Microlab 700 Advanced Manual.

To have access to the device audit log from the cloud, this function needs to be enabled from the Microlab 700 controller. Open Configuration > LyncStore 700 and enable Upload Audit Logs. Every time an event is added to audit log, it is automatically uploaded to the LyncStore 700. If there is no connection to the LyncStore 700 when the event has occurred, it will be uploaded eventually once the connection is provided.

The audit trail of a connected device shows the audit trail of the device. It consists of a list of important events logged by the device. All changes into configuration must be found in the audit trail. For example: valve mode changed, syringe size changed, or system date changed.

Timestamp

The exact time in which the event has occurred.

User ID

The username of the respective user thas has performed the action from the device. If the user account requirement is off on the device, this will be set to «Null».

Event ID

The ID of the logged event. The event could be action done, change in parameter or an error occurrence.

Original value

If the event is about a parameter that has been changed, the original value should appear here. If there is no original value, this will be set to «Null».

New value

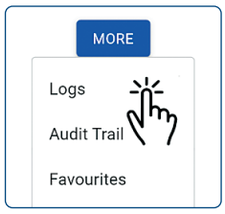
If the event is about a parameter that has been changed, the new value should appear here. If there is no new value, this will be set to «Null».

Comment

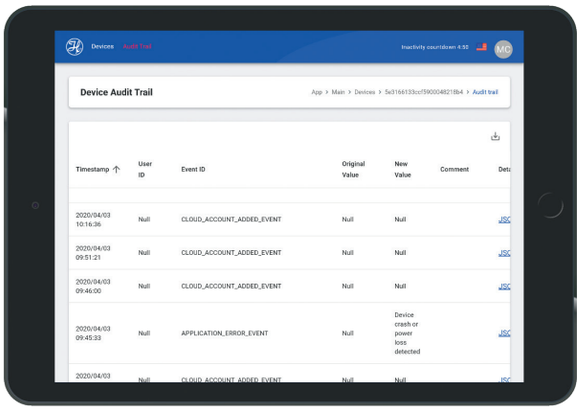
If the FDA audit trail is activated from the device, it would ask the user after every change in parameters to give a reason.

You can sort this list by time, user, event, original value, new value or comment. For example, if you want to sort it by time, you need to click on the word *Timestamp*.

6.7.2 Logs



To access the logs of a device page, you need to be in the main page. Then you need to find the desired device and click on *More* > *Logs*.



The Microlab 700 logs provides the ability to log activities executed by the device. More information about this can be found in the Microlab 700 Advanced Manual. To have access to the wizard logs from the cloud, this function needs to be enabled from the Microlab 700 controller. Open Configuration->LyncStore 700 and enable Upload Wizard Logs. Every time a user run a wizard; the events are saved in the logs in the device. The data is forwarded to the cloud, so that it is possible to monitor the usage of the device from the cloud.

This page will show you a list of previously executed wizards. Every line contains basic information such as Date, time, controller, file name, method name and the option to export the log file. For more details about the steps executed, click on the line where the step is.

Date

This shows the date and time, when the event was logged in.

Controller

The name of the controller is shown in this area.

File name

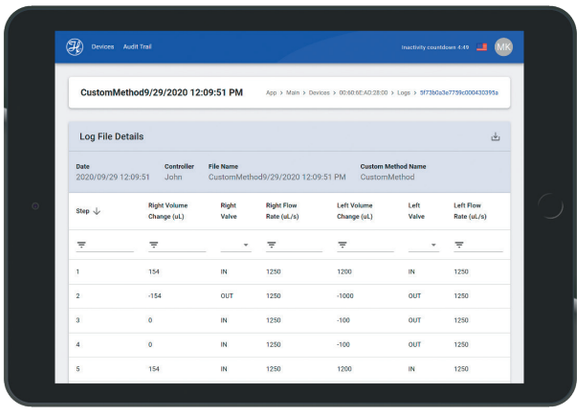
The logs can also be exported to pdf files. In order to make the name of the logs and event unique, the name contains the method name, date and time.

Custom Method Name

This field shows the name of the executed wizard.

Actions

Provides link in order to be able to export the log file in a pdf format.



Log file details page contain list of the steps executed. Every step contains the following information: step, right volume change, right value rate, right flow rate, left volume change, left valve, left flow rate.

Step

This contain the step number. This is useful when other filters are used.

Right volume change (µL)

This show the amount of liquid aspirated or dispensed by the right syringe.

Right valve

The position of the right valve.

Right flow rate (µL/s)

This show the flow rate of the right syringe.

Left volume change (µL)

This show the amount of liquid aspirated or dispensed by the left syringe.

Left valve

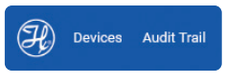
The position of the left valve.

Left flow rate (µL/s)

This show the flow rate of the left syringe.

6.7.2.1 Verify Logs

Every exported log file is digitally signed, this option is made available to check if a file was exported from the cloud without manipulation.



In order to do the verification, open logs of a connected device, and click on the *verify protocol* button. Then select the file from your PC. Afterwards, it should inform you if your file is valid or not.

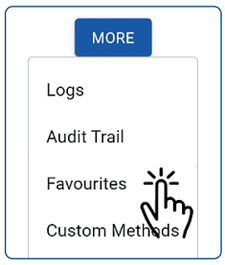
6.7.2.2 Filter Logs

After a lot of usage of the device, the list of logs can get too long that it becomes hard to find anything on the list. To solve this issue, we made it possible to filter the logs. You can select the time interval, or search in file name or custom method name to make it easier to find the desired log file.

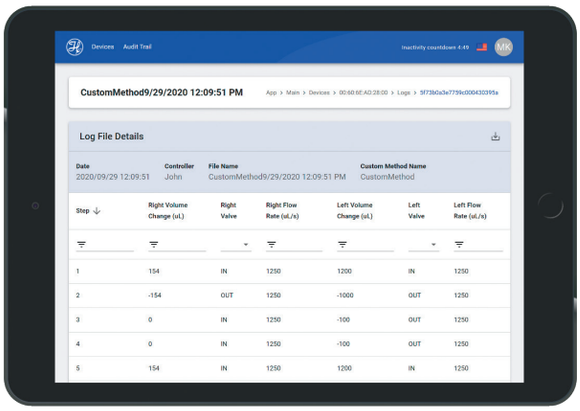
6.7.2.3 Export Logs to PDF

It is possible to export log file in form of a PDF file. This can be simply done by clicking on the *download* button in Action column. Every exported file is digitally signed, and it is possible to verify if they are manipulated by the verify log option.

6.7.3 Favorites



To access the favorites of a page, you need to be in the main page. Then you need to find the desired device and click on *More* > *Favorites*.



The Microlab 700 offers the possibility to save some wizards parameters as favorites, so that the user is not required to insert their values every time he opens a wizard. The user has the option to export his favorite to Lyncstore 700. The exported favorite can be imported at any wished time and from any device, the only condition is to be logged in to the same Lyncstore 700 account.

Every time a wizard created or edited, the list of favorites in the LyncStore 700 will also be updated In case that the wizards were edited only on the controller, these have to be exported again into LyncStore700.

This page shows you the list of favorites that are saved into a device. For every event, you will receive information like the timestamp, name, wizard type, left and right valve mode, left and right syringe size and details. The details column allows you to download a file which contain the rest of information of the favorite.

Timestamp

The exact time when a respective favorite method has been changed.

Name

The name of the favorite chosen by the user.

Wizard type*

The name of the wizard for which this favorite configuration is made.

Left valve mode*

This shows the left valve of the favorite.

Right valve mode*

This shows the right valve of the favorite.

Left syringe size*

The left syringe mode of the favorite.

Right syringe size*

The right syringe mode of the favorite.

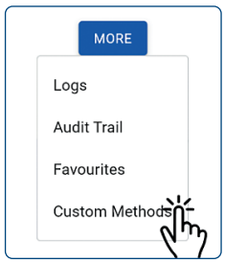
Details

This offers an option to download a JSON file that contains the values of the parameters of the wizard saved.

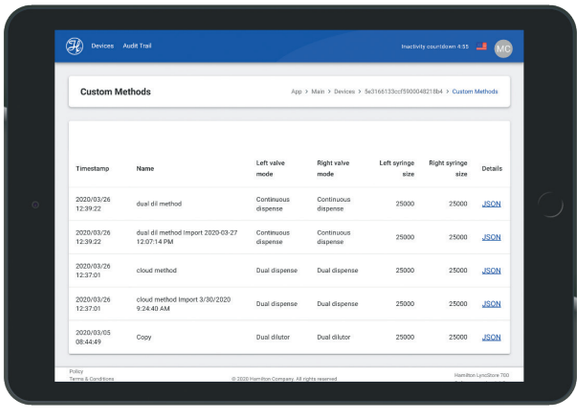
** Favorites only work for the specific wizard type, left and right valves modes and left and right syringes sizes that it was created for.*

You can sort this list by time, name, wizard type, left and right valve mode or left and right syringe size. For example, if you want to sort it by time, you need to click on the word *Timestamp*.

6.7.4 Custom Methods



To access the custom methods of a device page, you need to be in the main page. Then you need to find the desired device and click on *More* > *Custom Method*s.



Other than the predefined methods wizards, the Microlab 700 offer the possibility to create custom methods that are defined by the user. More information about this can be found in the Microlab 700 Advanced User Manual.

This page shows the list of custom methods saved into the device. For each custom method, it shows the timestamp, name, left and right valve mode, left and right syringe size and details.

Timestamp

The exact time when a respective custom method has been changed.

Name

The name of the custom methods.

Left valve mode*

This shows the left valve of the custom methods.

Right valve mode

This shows the right valve of the custom methods.

Left syringe size*

The left syringe mode of the custom methods.

Right syringe size*

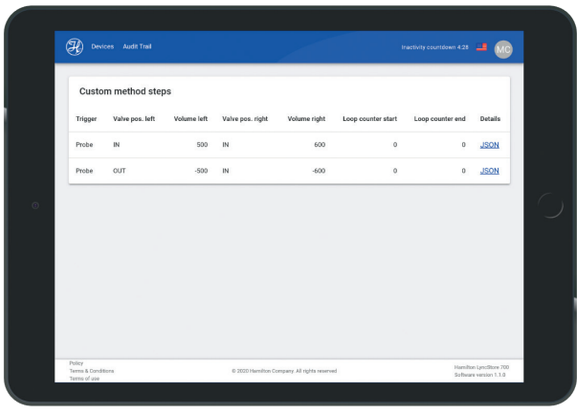
The right syringe mode of the custom methods.

Details

This offers you an option to download a JSON file that contain all information about the custom methods and its steps.

** Custom methods only work for the specific left and right valves modes and left and right syringes sizes that it was created for.*

You can know more about the custom method by clicking on it. If you do so, a page like the next picture should appear.



This page should show the list of the steps of the custom methods, every step contains information about the trigger, left and right valve position, left and right volume and loop counter start and end.

Trigger

The method by which the step is triggered.

Valve pos left

The position of the left valve.

Volume left

The changed volume of the left syringe.

Valve pos right

The position of the right valve.

Volume right

The changed volume of the right syringe.

Loop counter start

If it is equal to zero, then it is not a start of a loop. Otherwise, it is the start of a loop and the number represents the number of loops.

Loop counter end

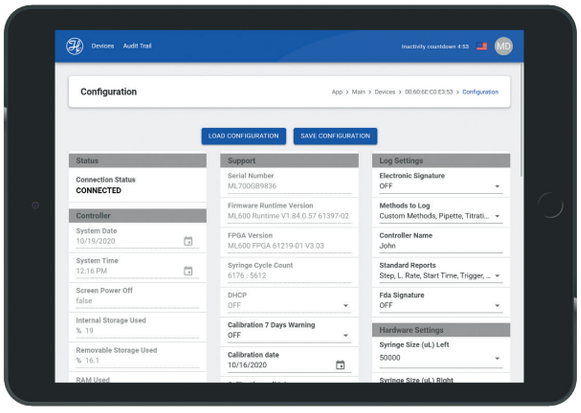
If it is equal to zero, then it is not an end of a loop. Otherwise, it is the end of a loop and the number represents the number of loops.

Details

This offers you an option to download a JSON file that contain all information about the custom methods and its steps.

6.7.5 Remote Configuration

To access the remote configuration of a device page, you need to be in the main page. Then you need to find the desired device and click on *Remote*.



This page allows you to read and modify some parameters from the device remotely.

To have access to the wizard logs from the cloud, this function needs to be enabled from the Microlab 700 controller. Open Configuration > LyncStore 700 and enable allow remote configuration.

First, when you open this page, you need to click on *load configuration*. When you do that, it will instantly get all configuration from the device to the cloud.

This page is useful to know the status of the device and changing software or hardware parameters.

After changing the parameters, you need to click on *save configuration* button located next to the load configuration button and all changes will be transferred back to the device.

Under controller section you can find the following parameters:

System Date*

The date that is set in the Microlab 700 controller.

System Time*

The time that is set in the Microlab 700 controller.

Screen Power Off*

If screen powers of the Microlab 700 controller turns of automatically after a timeout.

Internal Storage Used*

The percentage of the internal storage used in the Microlab 700.

Removable Storage Used*

The percentage of the removable storage (memory card) in the Microlab 700.

Mac Address*

The Mac Address of the device.

System trace logging*

When turned on, this will record critical information in the Audit Log.

Under version section you can find the following parameters:

Pipette Version*

The version of the pipette wizard installed on the Microlab 700 controller.

Aliquot Version*

The version of the Aliquot wizard installed on the Microlab 700 controller.

Dilution Version*

The version of the Dilution wizard installed on the Microlab 700 controller.

Dry Weight Version*

The version of the Dre Weight Dilution wizard installed on the Microlab 700 controller.

Serial Dispenser Version*

The version of the Serial Dispenser wizard installed on the Microlab 700 controller.

Titration Version*

The version of the Titration wizard installed on the Microlab 700 controller.

OS Version*

The version of the operating system installed on the Microlab 700 controller.

Software Version*

The version of the Software installed on the Microlab 700 controller.

Series Pump Version*

The version of the series pump version.

Log Viewer Version*

The version of the Log Viewer installed on the Microlab 700 controller.

Quick Start Version*

The version of the Quick Start wizard installed on the Microlab 700 controller.

Custom Method Version*

The version of the Custom Method Editor installed on the Microlab 700 controller.

Under support section you can find the following parameters:

Serial Number*

This shows the serial number of the Microlab 700.

Firmware Runtime Version*

This show the firmware runtime version.

FPGA Version*

This show the FPGA version.

Syringe Cycle Count*

This shows the number of cycles of the left and tight syringe.

DHCP

When in DHCP mode the Microlab 700 will obtain a dynamic IP address for the corporate server. During this time, it will not be able to connect to the Microlab 700 controller.

Calibration 7 Day Warning

When this is activated you will receive a reminder that your calibration is due.

Calibration Date

This show the date of the latest calibration saved in the Microlab 700 controller.

Calibration Valid Days

How many days, the calibration stays valid after the date calibration date.

Prevent Usage on Expired Calibration

If this setting is enabled, users won't be able to use Quick Start or wizards until calibration becomes valid again.

Maintenance Date*

This show the date of the latest maintenance saved in the Microlab 700 controller.

Maintenance Valid Days

Days before your maintenance expires. If between your calibration date and today is more than Maintenance valid days, the maintenance is considered expired.

Maintenance 7 Day Warning

When this is activated you will receive a reminder that your maintenance is due if this setting is enabled.

Mean Time Between Errors

Mean time between error detected in the device in seconds.

Show Cleaning Warning

When this is activated, you will receive a reminder that your cleaning is due.

Cleaning Date

This shows the date of the latest cleaning saved in the Microlab 700 controller.

Cleaning Valid Days

How many days, the cleaning stays valid after the cleaning date.

Max Cycles Before Cleaning

Maximum cycles done, before the device require a cleaning to operate.

Under log settings section you can find the following parameters:

Electronic Signature

For regulated customers requiring 21 CFR Part 11 compliance, Electronic Signatures can be enabled.

Methods to Log

Logging can be enabled to list of chosen wizards. Here you select the wizards that you want to be logged.

Controller Name

The user defined name to identify the controller.

Standard Reports

The list of information that will be included in the log file when exported.

Dry Weight Dilute

The list of information that will be included in the log file when exported for the dry weight dilution wizard.

Under hardware settings you can find the following parameters:

Syringe Size (µL) Left

The size of the left syringe.

Syringe Size (µL) Right

The size of the right syringe.

Flow Rate (µL/s) Left

Flow rate of the left syringe.

Flow Rate (µL/s) Right

Flow rate of the right syringe.

Initial Flow Rate (µL/s) Left

initial flow rate of the left syringe.

Initial Flow Rate (µL/s) Right

initial flow rate of the right syringe.

Return Step Left
Return Step Right
Back off Step Left
Back off Step Right
Valve Config Left
Valve Config Right
Trigger Side
Probe Hand Use

These parameters are important for setting up the Microlab 700, more information about them can be found in the Microlab 700 Advanced User Manual.

** These parameters cannot be changed from this page.*

7 REST API Developer Guide

For more advanced users with IT background, we offer you access to our REST API through swagger-UI.

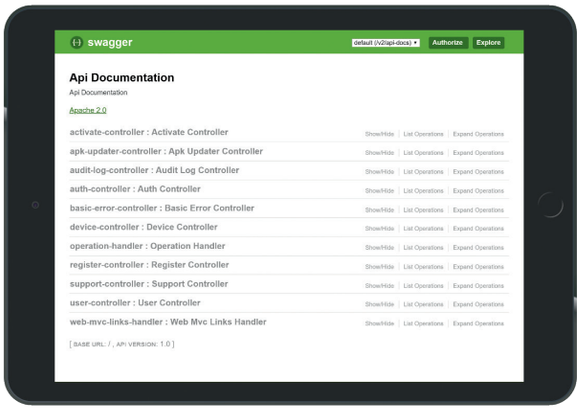
First, REST API is an application program interface (API) that uses HTTP requests GET, PUT, POST, and DELETE data.

An API allows to software to communicate with each other, in our case the LyncStore 700 and the Microlab 700. It is the proper way to write a program requesting information from another application, in our case, the software installed in Microlab 700 controller.

REST API is based on representational state transfer (REST), an architectural style and approach to communications often used in web services.

Swagger-UI allows you to visualize and interact with the REST API. It is basically a documentation of the REST-API and it allows you to test the commands from it.

This is the main page of our Swagger UI:



7.1 Example 1: How to authenticate via API

There are two ways to authenticate to your device:

- Authenticate with username and password: Acquire access to all devices under the account.
- Authenticate with username, password and device MAC address: Acquire access to only the specified device. This is usually used on the device part, because it has access to only one device of the account.

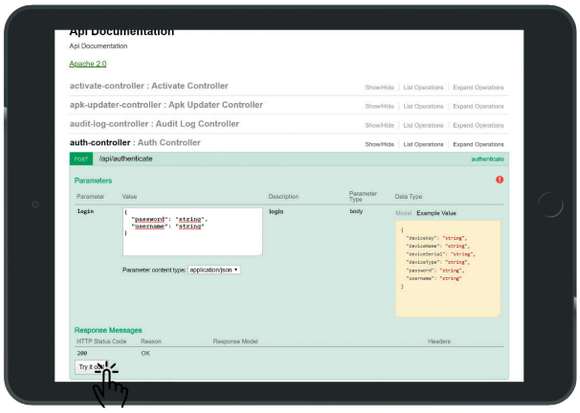
In order to authenticate, you must click on *auth-controller*: Auth Controller. Then type your information as shown in the text field your login information in the following form:

```
{
  "password": "put your password here",
  "username": "put your email address here"
}
```

or

```
{
  "deviceKey": "device MAC address",
  "password": "put your password here",
  "username": "put your email address here"
}
```

And press *Try it out*.



A new set of data should appear after this. Go to the Response body and you should be able to find a response in the following form:

```
{
        "": "Your token",
        "user": {
                "id": "user_id",
                "email": "max.sample@hamilton.com",
                "firstName": "Your first name",
                "lastName": "Your last name",
                "role": null,
                "devices": [ "your device id" ]
        }
}
```

Token

A JSON web token user for login, which carries login data with signature encrypted.

Id

Unique identifier for the user in the server database.

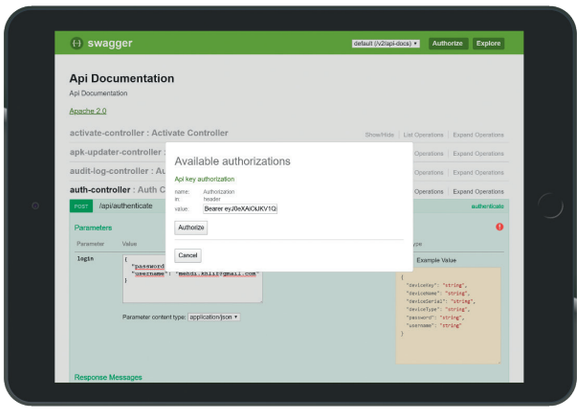
Role

Can be either null or admin.

Devices

List of id of the devices connected to the account.

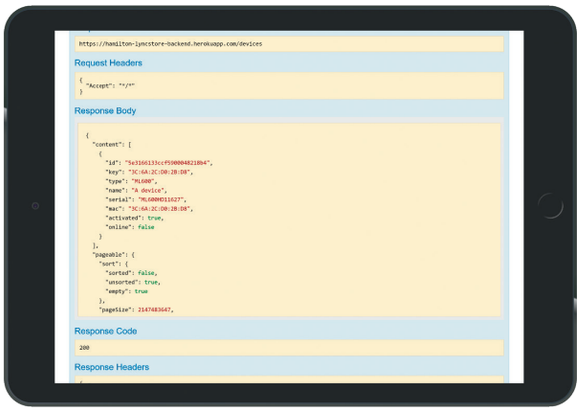
Copy your token and then click on *Authorize* on the top right of the page. Type «Bearer Your token» as in the following screenshot:



And finish by clicking on *authorize*, after this you are allowed to execute other commands from the API that reads the devices list, get logs from connected devices with the account etc.

7.2 Example 2: How to get the devices list via API

Once steps from example 1 are completed, click on *Device-Controller*: Device controller. Then click on *GET/devices*. By clicking on try it out, you should be able to get the devices connected to the account with details about the device in the response body.



ID

The ID of the device.

Key

The MAC address of the device.

Type

Type of the device.

Name

Name of the device, which is set by the customer on the device.

Serial

Serial number of the device. A manufacturer unique identifier of the device.

MAC

MAC address of the device.

Activated

If the device is activated.

Online

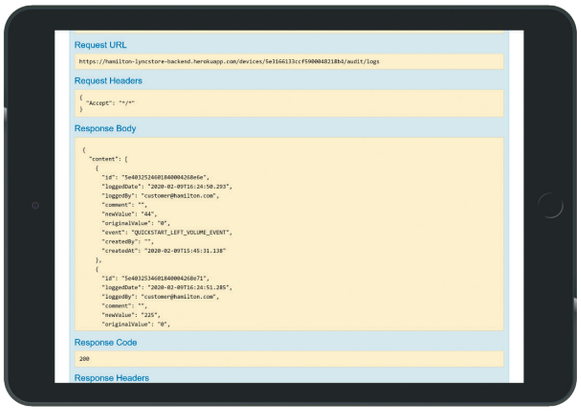
If the device online.

7.3 Example 3: How to get logs of a device via API

Once example 1 and 2 are completed, copy the ID of the desired logs.

Then you need to click on *GET/devices/{deviceId}/audit/logs*, paste the ID in the device ID and click on *Try it out*.

In the response body, you should have the list of the logs saved in the database.



ID

ID of the device that added the event.

logged Date

The date and time of the event

logged By

The email of the user that added the event.

Comment

Comment from the device if it exists.

new Value

The new value if the event about a variable change.

original Value

The old value if the event about a variable change.

event

The identifier of the event.

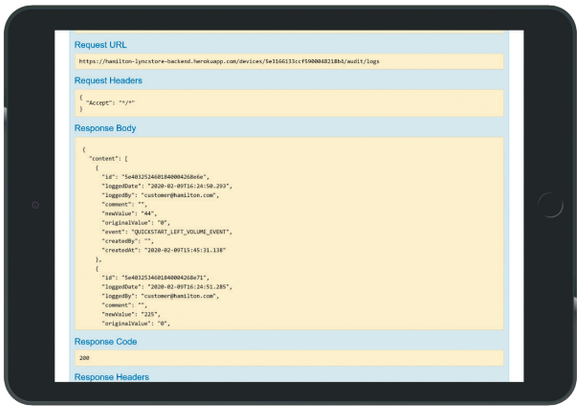
created By

Name of the user on the device. It is empty if the account option on the device is disabled.

created At

Time of the event creation.

If you have done the authentication with a device mac address you can use «GET /devices/audit/logs» and you will not need to specify the device ID.

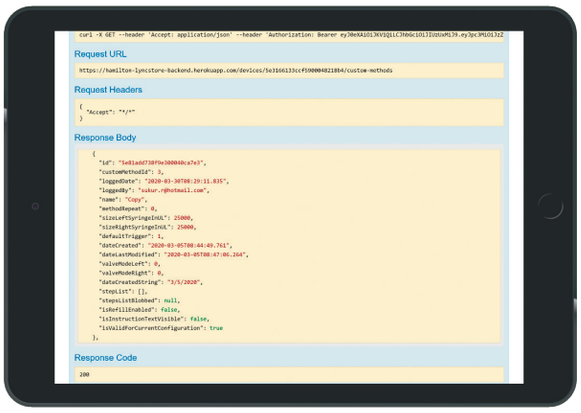


7.4 Example 4: How to get custom methods of a device via API

Once examples 1 and 2 are completed, copy the ID of which you desire to get the custom methods.

Then you need to click on *GET/devices/{deviceId}/custom-methods*, paste the id in the deviceID and click on *Try it out*.

In the response body, you should have the list of the custom methods saved in the database.



ID

The ID of the device.

customMethodId

Unique ID of the custom method.

loggedDate

The date and time the custom method is logged.

loggedBy

The email of the account that uploaded the custom method online

name

Name of the custom method in the device.

methodRepeat

Number of repeat methods.

sizeLeftSyringe

Size of the left syringe for the custom method.

sizeRightSyringe

Size of the right syringe for the custom method.

defaultTrigger

The default trigger for the custom method.

dateCreated

The date in which the custom method was first created.

dateLastModified

The date in which the custom method was modified.

valveModeLeft

The mode of the left valve.

valveModeRight

The mode of the right valve.

stepList

List of the step. (The method is empty in this example.)

isRefillEnabled

If automatic refill is enabled.

isInstructionTextVisible

If instruction text is visible.

isValidForCurrentConfiguration

If method is valid for current hardware configuration.

7.5 Exporting the API

The Swagger Hub allows you to export the API to almost any platform or programming language desired. This will help administrators to integrate the API in existing system environments with the API. Following formats are supported:

Client SDK

akka-scala, android, apex, clojure, cpprest, csharp, csharp-dotnet2, dart, flash, go, groovy, java, javascript, javascript-closure-angular, jaxrs-cxf-client, jmeter, kotlin, objc, perl, php, python, qt5cpp, ruby, scala, scala-gatling, swift, swift3, swift4, swift5, tizen, typescript-angular, typescript-angularjs, typescript-fetch, typescript-inversify, typescript-node

Server Stub

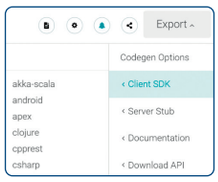
aspnetcore, erlang-server, go-server, haskell, inflector, jaxrs, jaxrs-cxf, jaxrs-cxf-cdi, jaxrs-resteasy, jaxrs-spec, lumen, msf4j, nancyfx, nodejs-server, php-silex, php-symfony, python-flask, rails5, scalatra, sinatra, slim, spring, undertow

Documentation

cwiki, dynamic-html, html, html2

API

JSON Resolved, JSON Unresolved, YAML Resolved, YAML Unresolved



Click on the *export* button on the top right of the swagger hub page, and click the desired format of the file.

NOTES

NOTES

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