

ChemDash Pharma

User Manual

Version 1.1



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1. Introduction to ChemDash

ChemDash is a software developed by Serstech AB. The ChemDash system integrates with all Indicator spectrometers towards a powerful solution for chemical intelligence. ChemDash is the perfect tool for storage, view and management of data including both libraries and measurements. ChemDash also offers the ability to gather and share information about substances and update one or many instruments.

The ChemDash system currently consists of the ChemDash ONE and the Pharma version as it is 21CFR Part 11 by FDA (Foods and Drugs Administration) compatible. ChemDash Pharma is intended to be used in the pharmaceutical industry.

1.1 Introduction to ChemDash Pharma and Statement regarding the 21 CFR Part 11

ChemDash Pharma is an application designed to comply to the 21 CFR Part 11 regulations. ChemDash Pharma is using Super Admin/Admin/User hierarchy levels. Please find all user levels in ChemDash Pharma and their privileges described in the table below:

User Hierarchy levels in ChemDash Pharma application	Privileges
Super Admin	The Super Admin has the right to all functions in the application: 1.Import user accounts to the system. 2.Set other accounts as Admins and Active/Dissable them. 3.Create instrument Admin/Users and correlate them to a ChemDash user account. 4.Manage their Indicators, monitor their status and manage instrument Users. 5.Manage all measurements made with the Serstech 100 Indicator. 6.Create database backups and restore the whole database in case of need. 7.Set PIN-codes and their expiration date for the Instrument.
Admin	Admin is a privileged user and can perform most of the actions with restriction in the administrative rights that are listed above for Super Admins.
Active	A user account that is set to Active can only view reports, measurements, and libraries. An Active role can also export

	measurements but is absolutely restricted from any administrative function.
Disabled	This is for a person who leaves the company but still its credentials remain to the system. This user's account can be set to Disabled from the system.

We believe that both our Serstech 100 Indicator Pharma version firmware and software ChemDash Pharma meet the 21 CFR Part 11 requirements, as defined in Subpart A, in Subpart B, and Subpart C for closed systems.

21 CFR Part 11 is the FDA rule that relates to the use of electronic records and electronic signatures. In response to industry requests, and in recognition of the increasing impact of electronic media on critical data in the regulated environment, the FDA met with members of the pharmaceutical industry in the early 1990s. The pharmaceutical industry was interested in how they could accommodate paperless record systems under GMP guidelines, and the FDA was additionally interested in developing a uniform approach, and ensuring the trustworthiness, reliability and integrity of the electronic records. The result was a final rule that became effective on August 20, 1997.

Key definitions follow:

Electronic record

“any combination of text, graphics, data, audio, pictorial, or other information representation in digital form that is created, modified, maintained, archived, retrieved, or distributed by a computer system”

Electronic signature

“a computer data compilation of any symbol or series of symbols executed, adopted, or authorized by an individual to be the legally binding equivalent of the individual's handwritten signature”

Closed system

“an environment in which system access is controlled by persons who are responsible for the content of electronic records that are on the system”

Digital signature

“an electronic signature based upon cryptographic methods of originator authentication, computed by using a set of rules and a set of parameters such that the identity of the signer and the integrity of the data can be verified”.

2. Start-up of ChemDash Pharma application

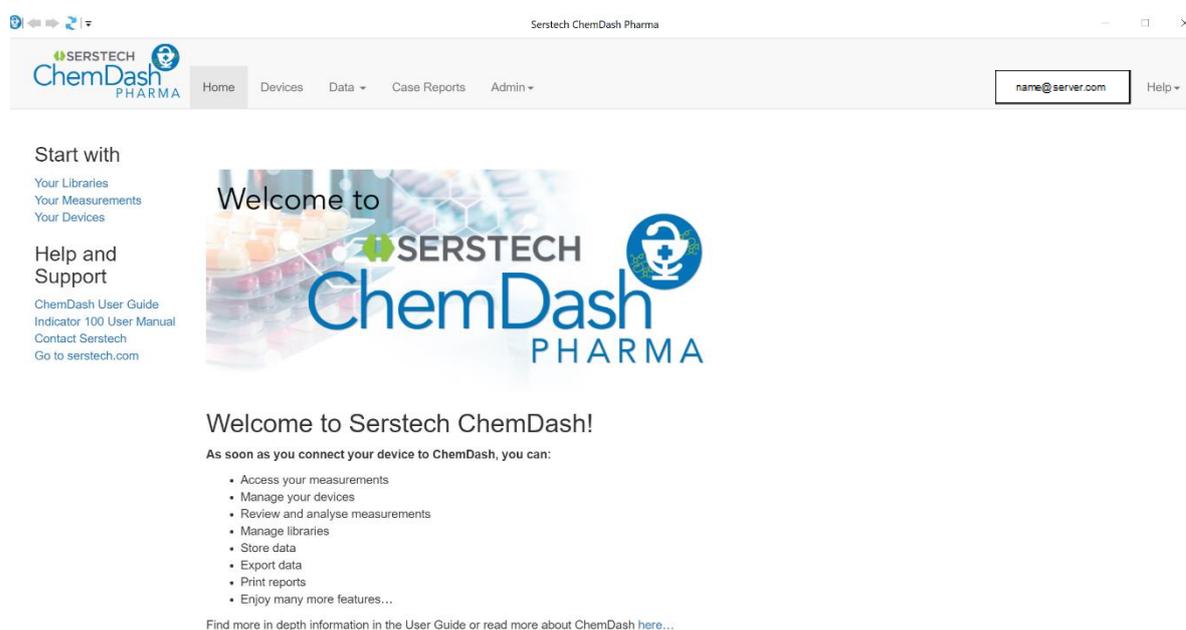
After you have successfully gone through the ChemDash Pharma Installation process, the Admin of the PC where the ChemDash Pharma application is installed will be automatically the Super Admin of the application. Before starting the application for first time, please perform “right click” and run as Administrator so as all the Super Admin privileges are enabled.

2.1 How to connect a Serstech 100 Indicator to ChemDash Pharma

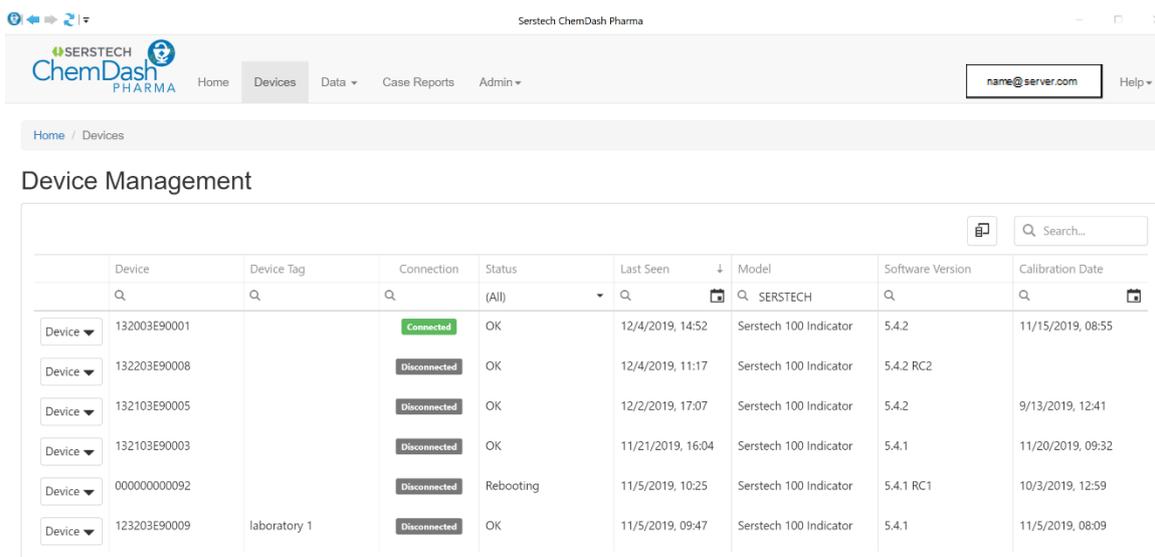
ChemDash Pharma and the Indicator communicate over the supplied USB cable. The best way to connect the two is to respect the following order:

1. Connect the Indicator and the computer via the USB cable.
2. Start the software ChemDash Pharma.
3. Start the Indicator and log in using your credentials (username and password).

Please note, that the Indicator and the ChemDash Pharma communicate via port 9093 and some firewalls need to be configured to allow traffic on this port. If there are any error messages about communication via port 9093 then its most likely that the computer firewall needs to be configured to allow traffic via port 9093.



The Indicator status in ChemDash Pharma will change as soon as a Super Admin or privileged Admins with the “ChemDash Pharma Connection Privilege” has logged in on the Device, please see picture below.

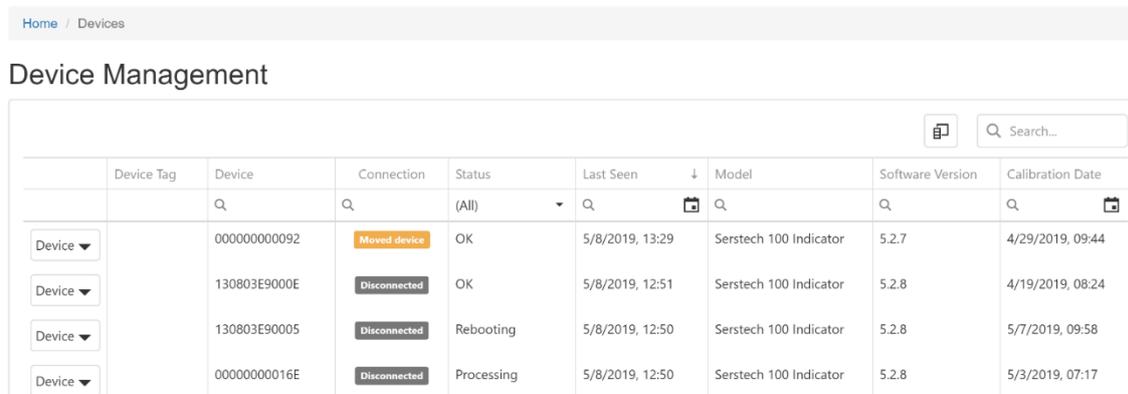


Home / Devices

Device Management

Device	Device Tag	Connection	Status	Last Seen	Model	Software Version	Calibration Date
132003E90001		Connected	OK	12/4/2019, 14:52	Serstech 100 Indicator	5.4.2	11/15/2019, 08:55
132203E90008		Disconnected	OK	12/4/2019, 11:17	Serstech 100 Indicator	5.4.2 RC2	
132103E90005		Disconnected	OK	12/2/2019, 17:07	Serstech 100 Indicator	5.4.2	9/13/2019, 12:41
132103E90003		Disconnected	OK	11/21/2019, 16:04	Serstech 100 Indicator	5.4.1	11/20/2019, 09:32
000000000092		Disconnected	Rebooting	11/5/2019, 10:25	Serstech 100 Indicator	5.4.1 RC1	10/3/2019, 12:59
123203E90009	laboratory 1	Disconnected	OK	11/5/2019, 09:47	Serstech 100 Indicator	5.4.1	11/5/2019, 08:09

If the Super Admin or privileged Admins try to change an Indicator from ChemDash Pharma on one computer to ChemDash Pharma on another computer, ChemDash Pharma will notice and notifies with the status "Moved device", please see picture below.



Home / Devices

Device Management

Device Tag	Device	Connection	Status	Last Seen	Model	Software Version	Calibration Date
	000000000092	Moved device	OK	5/8/2019, 13:29	Serstech 100 Indicator	5.2.7	4/29/2019, 09:44
	130803E9000E	Disconnected	OK	5/8/2019, 12:51	Serstech 100 Indicator	5.2.8	4/19/2019, 08:24
	130803E90005	Disconnected	Rebooting	5/8/2019, 12:50	Serstech 100 Indicator	5.2.8	5/7/2019, 09:58
	00000000016E	Disconnected	Processing	5/8/2019, 12:50	Serstech 100 Indicator	5.2.8	5/3/2019, 07:17

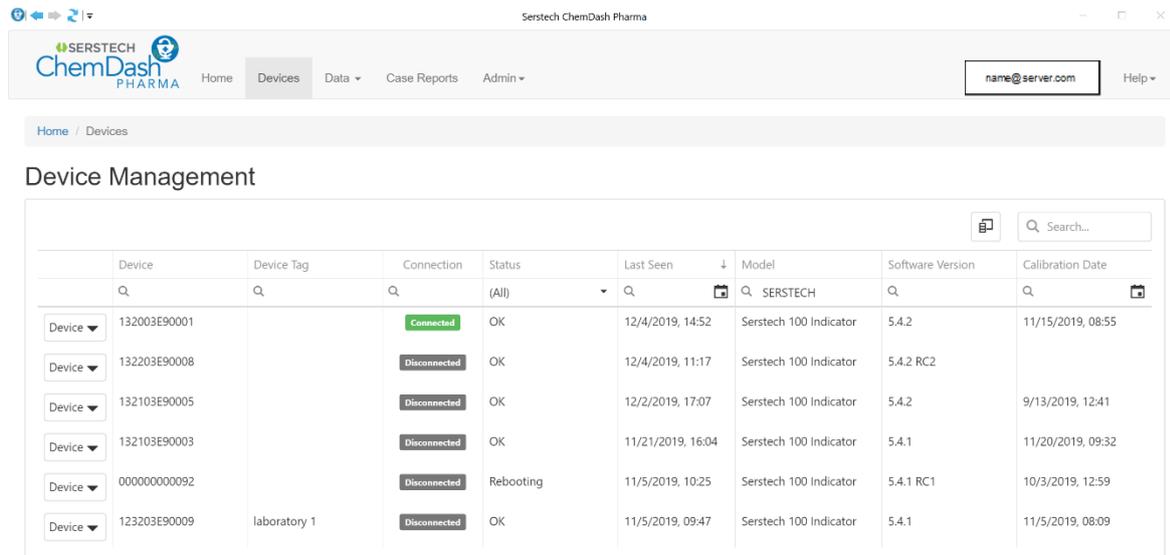
In this case, to connect to a new instance of ChemDash Pharma, the Super Admin or privileged Admins needs to disconnect the Indicator from the old instance of ChemDash Pharma. In order to disconnect the indicator, please do the following:

1. Log in the Indicator as Admin with your credentials.
2. Press the Quick Menu button and select Settings.
3. After, select Administration and Unpair Device.
4. Once the device is unpaired, it will restart.

- After the Indicator has unpaired a User with the “ChemDash Pharma Connection Privilege” needs to log in the Indicator again, while it is connected to the new instance of ChemDash Pharma to allow data to be uploaded.

2.2 Manage Device

The "Device Management" page will show a list of all Indicators in organisation and their current connection (connected/disconnected).

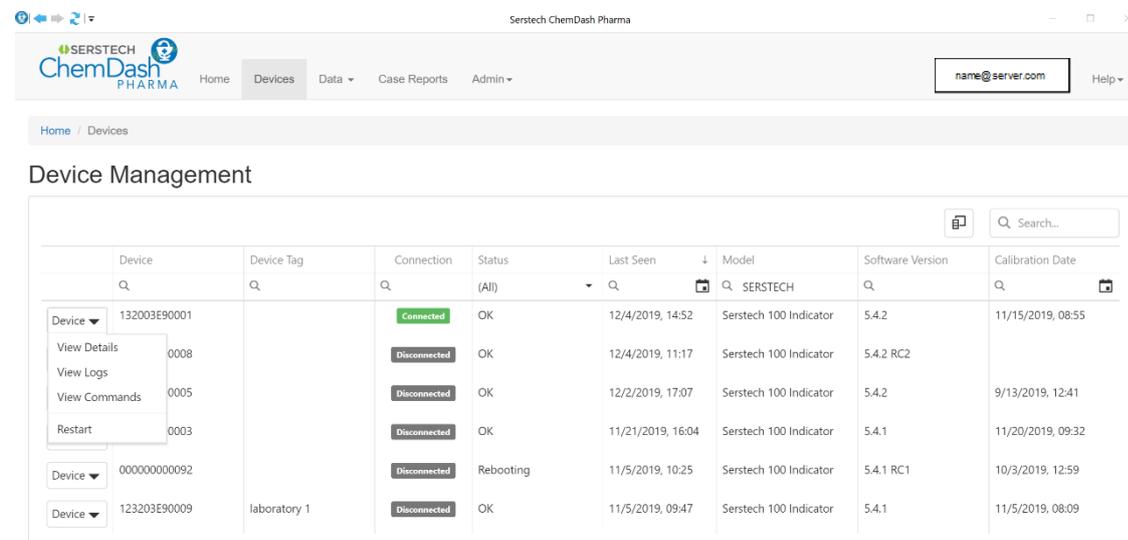


The screenshot shows the Serstech ChemDash Pharma interface. The top navigation bar includes Home, Devices, Data, Case Reports, and Admin. The user is logged in as name@server.com. The main content area is titled "Device Management" and contains a table of devices. The table has columns for Device, Device Tag, Connection, Status, Last Seen, Model, Software Version, and Calibration Date. The first device is 132003E90001, which is connected and has a status of OK. The other devices are disconnected or rebooting.

Device	Device Tag	Connection	Status	Last Seen	Model	Software Version	Calibration Date
132003E90001		Connected	OK	12/4/2019, 14:52	Serstech 100 Indicator	5.4.2	11/15/2019, 08:55
132203E90008		Disconnected	OK	12/4/2019, 11:17	Serstech 100 Indicator	5.4.2 RC2	
132103E90005		Disconnected	OK	12/2/2019, 17:07	Serstech 100 Indicator	5.4.2	9/13/2019, 12:41
132103E90003		Disconnected	OK	11/21/2019, 16:04	Serstech 100 Indicator	5.4.1	11/20/2019, 09:32
000000000092		Disconnected	Rebooting	11/5/2019, 10:25	Serstech 100 Indicator	5.4.1 RC1	10/3/2019, 12:59
123203E90009	laboratory 1	Disconnected	OK	11/5/2019, 09:47	Serstech 100 Indicator	5.4.1	11/5/2019, 08:09

In Device Management, you can view basic facts about the device, such as serial number, connection and when the device was last logged into ChemDash Pharma. You can also review the software version running on the Indicator and when the device was last calibrated.

By clicking on the "Device" button to the left in the device table, a submenu shows the actions you can perform with your Indicator, please see picture below.



The screenshot shows the Serstech ChemDash Pharma interface with the "Device" button for the first device (132003E90001) clicked. A submenu is displayed with the following options: View Details, View Logs, View Commands, and Restart. The table below shows the same data as the previous screenshot.

Device	Device Tag	Connection	Status	Last Seen	Model	Software Version	Calibration Date
132003E90001		Connected	OK	12/4/2019, 14:52	Serstech 100 Indicator	5.4.2	11/15/2019, 08:55
132203E90008		Disconnected	OK	12/4/2019, 11:17	Serstech 100 Indicator	5.4.2 RC2	
132103E90005		Disconnected	OK	12/2/2019, 17:07	Serstech 100 Indicator	5.4.2	9/13/2019, 12:41
132103E90003		Disconnected	OK	11/21/2019, 16:04	Serstech 100 Indicator	5.4.1	11/20/2019, 09:32
000000000092		Disconnected	Rebooting	11/5/2019, 10:25	Serstech 100 Indicator	5.4.1 RC1	10/3/2019, 12:59
123203E90009	laboratory 1	Disconnected	OK	11/5/2019, 09:47	Serstech 100 Indicator	5.4.1	11/5/2019, 08:09

The following actions are available from the "Device" menu:

1. View Details

This option will launch into a more detailed view of the device where you also can edit the settings of your Indicator, manage embedded spectral reference libraries etc.

2. View Logs

Many actions performed locally with the Indicator are continually logged. Logs are automatically uploaded to ChemDash Pharma when the Indicator is connected.

3. View Commands

This option links to a history of all commands which have been sent between the Indicator and the ChemDash Pharma. It can be used to verify that actions are accepted by the device as well as e.g. for general network debugging purposes.

4. Restart

This option will restart the Indicator.

2.3 Manage Device Details

The Detail view will display more in-depth information about the Indicator. The tabs contain configurable parameters, instrument User settings, reference libraries etc., all of which can be managed by the Super Admin or privileged Admins, please see picture below.

Device Details

Connected Synchronized Device ▾

Tag Contact Info

Product Model	Serstech 100 Indicator	Libraries	NEH	Free Space	11183 [MB]
Serial Number	000000000092	Latest Calibration	4/29/2019, 09:44	Battery Level	61%
Software Version	5.2.7 / 405	Latest Factory Reset	Never		

Settings Last Updated: 5/8/2019, 14:06

Scan	Network	System	Libraries
Auto Exposure	Standard		
Laser Power	Medium		
Scan Time (s)	12.688		
Scan Delay (s)	0		
Screen Method Type	Narcotics Explosives		
Add Substance	3		
Repeats			

The Basic Info section includes some pieces of information which may be of interest.

- **Product Model**

The model of device, e.g. Serstech 100 Indicator.

- **Serial number**

This shows the variant within a specific product type.

- **Embedded Software Version**

This shows the version of the Indicators' embedded software

- **Libraries**

This shows the Libraries that have been sent from the ChemDash Pharma to the connected devices-Indicators.

- **Latest Calibration**

When the device was latest calibrated.

- **Latest Factory Reset**

This shows when factory reset was latest performed.

- **Free Space**

The last known status of the device.

- **Battery Level**

The last known status of the device.

2.5 Edit Settings

By selecting the "Edit" button in the top right section of the browser window the Super Admin or privileged Admins can enter the "Edit mode". This will enable the Super Admin or privileged Admins to modify all instrument parameter settings from the various tabs. The new settings can then be sent to the Indicator by clicking on first "Save" and then "Send to Indicator". The settings will be downloaded to the Indicator when it is connected, and the device will be automatically restarted to make the new settings take effect.

At the top, there is the "Tag" field where Super Admin or privileged Admins can add its own note for easy identification of the Indicator throughout the ChemDash Pharma list. It worth to mention that the Tag information is used in ChemDash Pharma only and thus not downloaded to the Indicator, please see picture below.

Product Model	Serstech 100 Indicator	Libraries	NEH	Free Space	11183 [MB]
Serial Number	000000000092	Latest Calibration	4/29/2019, 09:44	Battery Level	62%
Software Version	5.2.7 / 405	Latest Factory Reset	Never		

Regarding the indicator's default values, Serstech AB does not recommend changing any parameters unless either the Super Admin or privileged Admins are very familiar with the Indicator. There is no danger of damaging the instrument by suboptimal settings, but measurement performance may be adversely affected. Please go through the Serstech 100 Indicator User Manual for more in-depth information on the available parameters and how to use the instrument.

2.6 How to create instrument User, their credentials and relate them to the ChemDash Pharma

One of the tabs on the Device Details page deserves special attention. The "Users" tab will show the local Indicator Users who can login to the instrument and perform measurements. Important to mention that the Indicator Users shown and managed here are local and unique to a specific Indicator. The Username configured here will be attached to all measurements and actions done when the User is logged into the instrument. This will make it possible to track instrument data and actions from ChemDash when new data arrives. To add and give privileges or delete a user, please see picture below. From this section, you can create an Instrument User, set privileges, PIN-code expiry date and relate this specific User to ChemDash Pharma user account.

The screenshot displays the 'Device Details' page for a Serstech 100 Indicator. At the top, there are navigation links for 'Home / Devices / Details' and a breadcrumb trail. The device status is shown as 'Connected' and 'Synchronizing...'. Action buttons include 'Save', 'Save As...', 'Import...', and 'Cancel Edit'. Below this, there are input fields for 'Tag' and 'Contact Info'. A table provides key device information:

Product Model	Serstech 100 Indicator	Libraries	NEHPC	Free Space	11785 [MB]
Serial Number	132003E90001	Latest Calibration	11/15/2019, 08:55	Battery Level	74%
Software Version	5.4.2 / 512	Latest Factory Reset	Never		

The 'Settings' section is active, showing a 'Users' tab. It includes a table of existing users:

Given Name	Family Name	
Q	Q	
User	Default	Delete
Admin	Default	Delete

The 'User Info' form for the 'Admin' user is shown, with fields for 'Given Name' (Admin), 'Family Name' (Default), 'ChemDash User' (em@serstech.c...), 'PIN-code expiry date' (2099-01-01 00:00), and 'Account locked' (checkbox). An 'Add user' button is also present.

There are several privileges which can be set for each instrument User. Privileges control what the instrument User is allowed to do locally in the Indicator only.

Available privileges are summarized below:

- Factory reset

In the Pharma version, the User is not allowed perform factory reset on the device.

- Modify scan settings

In the Pharma version, the User is not allowed to modify scan settings on the device.

- Add substance

The User is allowed to use the Add New Substance method.

- Change time/date

In the Pharma version, the User is not allowed to modify time and date settings on the device.

- Change Language

The User is allowed to set the Indicator GUI language.

- USB configuration (read)

The User is allowed to activate the USB mass storage function for read-only access.

- USB configuration (write)

In the Pharma version, the User is not allowed to modify the configuration on the device.

- Connect to ChemDash

The User is allowed to pair an Indicator to ChemDash Pharma.

- Remove Measurement

In the Pharma version, no User is allowed to remove any measurements from the device.

If you want to set a 4-digit PIN code in the range [0...9] for the device, you need to do it through ChemDash Pharma. When you first connect a device to the ChemDash Pharma, the application will recognise that the device has no PIN-code settled and at this point you will be able to set the code, see pictured below.

The screenshot shows the ChemDash Pharma Admin interface. The top navigation bar includes 'Home', 'Devices', 'Data', 'Case Reports', and 'Admin'. A user profile dropdown shows 'name@server.com' and a 'Set device user PIN-code' option. The main content area is titled 'Authentication Logs' and features a search bar and an 'Export...' button. Below is a table of authentication events.

Account Name	Event Type	Event Time	Domain Name
Serstech Test	Successful Login	07/01/2020, 14:51:56	DESKTOP-42HQ9LV
Serstech Test	Successful Login	12/12/2019, 13:02:38	DESKTOP-42HQ9LV
Serstech Test	Successful Login	12/12/2019, 12:56:16	DESKTOP-42HQ9LV
Serstech Test	Successful Login	12/12/2019, 11:24:54	DESKTOP-42HQ9LV
Serstech Test	Successful Login	12/12/2019, 11:21:40	DESKTOP-42HQ9LV
Serstech Test	Successful Login	12/12/2019, 11:05:59	DESKTOP-42HQ9LV
Serstech Test	Successful Login	04/12/2019, 23:39:30	DESKTOP-42HQ9LV
Serstech Test	Successful Login	04/12/2019, 23:38:12	DESKTOP-42HQ9LV
Serstech Test	Successful Login	04/12/2019, 15:07:02	DESKTOP-42HQ9LV
Serstech Test	Successful Login	04/12/2019, 14:49:10	DESKTOP-42HQ9LV
Serstech Test	Successful Login	04/12/2019, 14:48:05	DESKTOP-42HQ9LV

2.7 Device Upgrade

ChemDash Pharma offers to its Super Admin and privileged Admins the opportunity to upgrade their devices (Serstech 100 Indicator) to the latest firmware developed by Serstech AB. A Super Admin/Privileged Admin can upgrade its device by clicking on the “Device” button and then “Upgrade”. The list of devices will be shown, and the User must choose in which device should the upgrade send. Upgrade will be sent to the device as soon as the device is connected to the ChemDash Pharma, please see pictures below.

Home / Devices / Details

Device Details

Connected Synchronized Edit Device

Tag Contact Info

Product Model	Serstech 100 Indicator	Libraries	NEHPC	Free Space	11785 [MB]
Serial Number	132003E90001	Latest Calibration	11/15/2019, 08:55	Battery Level	99%
Software Version	5.4.2 / 512	Latest Factory Reset	Never		

Settings Last Updated: 12/5/2019, 13:11

Scan	Network	System	Users	Libraries
Auto Exposure Laser Power Scan Time (s) Scan Delay (s) Screen Method Type Add Substance Repeats	Standard High 5.317 0 Narcotics Explosives 99			

Serstech ChemDash Pharma

name@server.com Help

Home / Devices / Details

Device Details

Connected Synchronized Edit Device

Tag

Product Model: Serstech
 Serial Number: 132003E9
 Software Version: 5.4.2 / 512

Settings Last Updated: 12/5/2019, 13:11

Scan

Auto Exposure: Standard
 Laser Power: High
 Scan Time (s): 5.317

Software Upgrade

Select the version to which to upgrade the device 132003E90001

Version	Date	Release Notes
5.4.2	2019-12-05T12:10:00.29120...	

OK Cancel

3.0 Manage Data

3.1 Manage measurements

Measurements uploaded to ChemDash Pharma from all Indicators in the organization are available from the "Data→Measurements menu in the top row.

The screenshot shows the Serstech ChemDash Pharma web application. The top navigation bar includes 'Home', 'Devices', 'Data', 'Case Reports', and 'Admin'. The 'Data' menu is open, showing 'Measurements' and 'Libraries' options. The main content area is titled 'Device Management' and contains a table with columns: Device, Device Tag, Connection, Status, Last Seen, Model, Software Version, and Calibration Date. The table lists three devices, one of which is 'Connected' and the others are 'Disconnected'.

Device	Device Tag	Connection	Status	Last Seen	Model	Software Version	Calibration Date
132003E90001		Connected	OK	12/5/2019, 13:13	Serstech 100 Indicator	5.4.2	11/15/2019, 08:55
132203E90008		Disconnected	OK	12/4/2019, 11:17	Serstech 100 Indicator	5.4.2 RC2	
132103E90005		Disconnected	OK	12/2/2019, 17:07	Serstech 100 Indicator	5.4.2	9/13/2019, 12:41

This option will open a (searchable) list of measurements.

The screenshot shows the 'Data: Measurements' page in the Serstech ChemDash Pharma application. The page title is 'Data: Measurements'. The table has columns: Substance, Type, Sequence No, Time, Quality, Device, and Tag. The table lists several measurements for 1-octanol and Stanazolol. The 'Quality' column shows a progress bar for each measurement. The 'View' button is visible next to each row.

Substance	Type	Sequence No	Time	Quality	Device	Tag
1-octanol	Identify	107	12/2/2019, 15:14	██████████	132103E90005	
1-octanol	Identify	106	12/2/2019, 15:04	██████████	132103E90005	
1-octanol	Identify	105	12/2/2019, 14:35	██████████	132103E90005	
Stanozolol	Verify	104	12/2/2019, 14:11	██████████	132103E90005	
Stanozolol	Verify	103	12/2/2019, 14:09	██████████	132103E90005	
1-octanol	Identify	102	12/2/2019, 14:08	██████████	132103E90005	
1-octanol	Identify	101	12/2/2019, 13:58	██████████	132103E90005	
Dehydroepiandrosterone (...)	Identify	100	12/2/2019, 13:57	██████████	132103E90005	
5 alpha-Dihydrotestosterone	Identify	99	12/2/2019, 13:56	██████████	132103E90005	
	Identify	98	12/2/2019, 13:53	██████████	132103E90005	

The Super Admins and privileged Admins can sort the table according to e.g. measurement method used in the Indicator to acquire the data, Indicator measurement sequence number, Substance name, device ID, spectrum quality, or data time stamp. Clicking the "View" button will open a summary of your measurement as shown in the picture below.

The screenshot displays the ChemDash Pharma web application interface. At the top, there is a navigation bar with the Serstech ChemDash Pharma logo and menu items: Home, Devices, Data, Case Reports, and Admin. A user profile box shows 'name@server.com' and a Help link. Below the navigation bar, the breadcrumb trail reads 'Home / Data: Measurements / Details'. The main heading is 'Identify Measurement 100 (12/2/2019, 13:57)', with buttons for 'View Report', 'Export', and 'Edit'. A 'Tag' field is present below the heading. The 'Result' section shows 'Single Matches (1)' with 'Dehydroepiandrosterone (DHEA) (94%)' highlighted. The 'Substance basic information' section lists: Substance Name: Dehydroepiandrosterone (DHEA); Substance synonym names: 53-43-0; CAS numbers: 53-43-0; Substance class: Regulated precursor, Narcotic clear, Explosive clear, Toxic clear, Hazardous clear; Supplemental notes; References; and Custom Information: LOT NO:1603.1B0.2, PRODUCER:LIPOMED AG. The 'Spectrum' section features a plot titled 'Spectrum' with 'Counts' on the y-axis (0 to 30000) and 'cm-1' on the x-axis (500 to 2000). The plot compares 'Measurement' (red line) and 'Dehydroepiandrosterone (DHEA)' (blue line). A 'Measurement information' section is located below the spectrum plot.

Any substance information linked to the measurement results will be attached to the data and thus displayed as part of the ChemDash report. Clicking on the "Edit" button in the top right section allows the Super Admins and privileged Admins to edit basic data related to the measurement and save for later. The Super Admin/Privileged Admin can also add a Tag identifier of your choice to the measurement to make it easier to find later, e.g. when building your own spectrum reference library. Click on the "Save" or "Cancel Edit" buttons to exit edit mode. By clicking the "Export" button in the top right section, the User can export the measurement data. Currently we support export to the JCAMP, CSV format and Text, please see picture below.

Identify Measurement 100 (12/2/2019, 13:57)

Tag

Result

Single Matches (1)

Dehydroepiandrosterone (DHEA) (94%)

Substance basic information

Substance Name: Dehydroepiandrosterone (DHEA)

Substance synonym names: Dehydroepiandrosterone (DHEA)

CAS numbers: 53-43-0

Substance class: Regulated precursor, Narcotic clear, Explosive clear, Toxic clear, Hazardous clear

Supplemental notes

References

Custom Information

LOT NO:1603.1B0.2

PRODUCER:LIPOMED AG

Spectrum

Counts

cm-1

Measurement information

Export options: as Jcamp, as CSV, as TXT

3.1.1 Create measurement report

So as to create a measurement report Super Admins and privileged Admins must click in the “View Report” button in the top right section which gives the possibility to print the summary of the measurement report. Super Admins and privileged Admins can print to a PDF and/or on paper. It is possible to add company’s own logo to report, this is done via the admin menu, and choose System Settings. In systems settings, the Super Admins and privileged Admins can upload a logo in PNG-format that will show on top of the report, please see pictures below.

Case Report

Add New Substance Measurement 129 (11/21/2019, 13:19)

Spectrum

Print

Remove

Case Reports

Moreover, ChemDash Pharma offers to the Super Admins and privileged Admins the ability to sort the information by choosing which columns want to be shown while others can be hidden. Super Admins and privileged Admins can hide and restore columns by clicking in the column button and drag into all chosen columns, please see image below.

	Tag	Time	Substance	Type	Sequence No
<input type="checkbox"/>				(All)	
<input type="checkbox"/>	View	12/2/2019, 15:14	1-octanol	Identify	107
<input type="checkbox"/>	View	12/2/2019, 15:04	1-octanol	Identify	106
<input type="checkbox"/>	View	12/2/2019, 14:35	1-octanol	Identify	105
<input type="checkbox"/>	View	12/2/2019, 14:11	Stanazolol	Verify	104
<input type="checkbox"/>	View	12/2/2019, 14:09	Stanazolol	Verify	103
<input type="checkbox"/>	View	12/2/2019, 14:08	1-octanol	Identify	102
<input type="checkbox"/>	View	12/2/2019, 13:58	1-octanol	Identify	101
<input type="checkbox"/>	View	12/2/2019, 13:57	Dehydroepiandroster...	Identify	100
<input type="checkbox"/>	View	12/2/2019, 13:56	5 aloha-Dihydrotestost...	Identify	99

3.2 Manage libraries

A core functionality in ChemDash Pharma is the ability to build spectral reference libraries and download them to the Serstech instruments for use in the field. This will enable the Super Admins and privileged Admins to customize the solution to their specific needs. In case of further help, Serstech also offers a service to assist this process. Please contact Serstech for more information. Every library has a name, state and language. The status is the most critical step. Library status can be as following

- **Published**

This indicates that the library is available for the ChemDash Pharma Super Admins and privileged Admins and can be downloaded to the Indicator.

- **Checked out by Super Admin and privileged Admins**

This indicates that the library has been checked out for editing. In this state the library cannot be downloaded to Indicators and it is accessible only to the specified privileged Admin or privileged User.

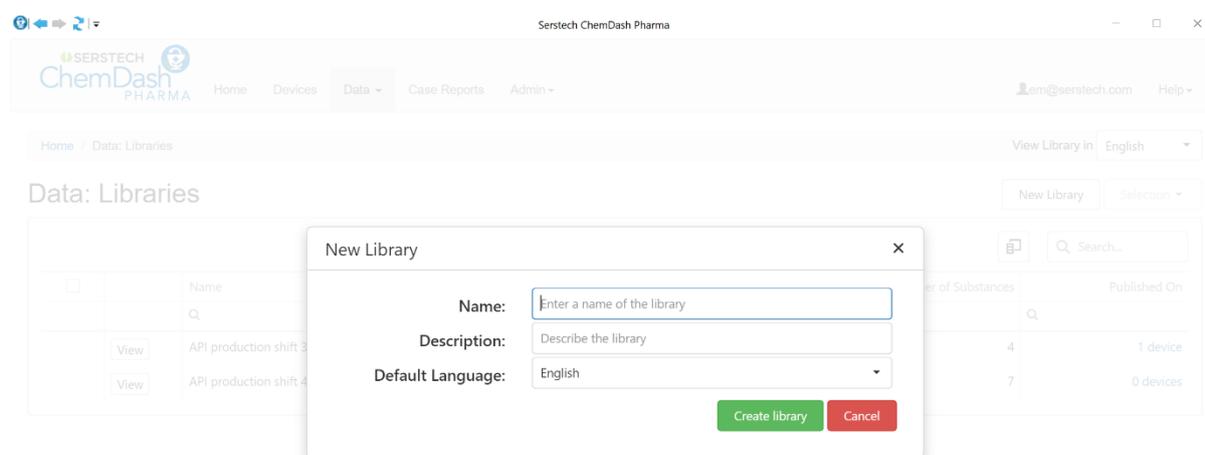
- **Draft**

This state shows the library has been edited by someone and then checked in. Other ChemDash Pharma privileged Admins can now view and further edit the library, but it cannot be downloaded to any device until set to the Published state.

Super Admins and privileged Admins can edit an existing library by clicking the "View" button on the Data: Libraries page and then the "Check out" button in the top right section of the library window. As may be expected, the library will then enter the Checked-out state.

3.2.1 Create a new library

In order to create a new library, the Super Admins and privileged Admins should select the "New Library" icon in the top right section of the Data: Libraries page. This will open a dialog where information like name, language and description can be added, please see image below.



Once the Super Admin/Privileged Admin edits all information should click on the "Create library" button. This will take to an overview of the new library in edit mode.

After creating the new library, the Super Admin/Privileged Admin can add spectrum reference data from several different sources. By clicking on the "Add Substance" button in the library window use can view two sources of data to choose either for Measurements or Library:

- Measurements

This allows the Super Admin/Privileged Admin to use its own measurements made with the Serstech 100 Indicator as reference. The User can use measurements made with any of the methods in the instrument. But in order to ensure maximum data quality we recommend collecting reference data with the Add New Substance method.

- Library

This allows the Super Admin/Privileged Admin to copy reference records from another earlier created library, please see image below.

API production shift 4

Mod

Version:1 (Checked out by you)

Number of Substances:0

You can drop columns here

<input type="checkbox"/>	Substance Name	Substance CAS	Class	Substance Info	Tag
	Q	Q	Q	Q	Q

No data

3.2.2 Add data from measurements

The Super Admin/Privileged Admin can choose the "From Measurements" option to add references taken from measurements made with Indicators within the organization. This will redirect the Super Admin/Privileged Admin to the data window where you can see all measurements, please see picture below.

Data: Measurements

Select the substance or substances to add. Only substances uploaded to ChemDash are available.

OK Cancel

<input type="checkbox"/>	Tag	Substance	Type	Sequence No	Time	Quality	Device
<input checked="" type="checkbox"/>	View	Q	Add New Substance	344	11/25/2019, 10:44	██████████	132003E90001
<input checked="" type="checkbox"/>	View	Q	Add New Substance	131	11/21/2019, 13:27	██████████	132103E90003
<input checked="" type="checkbox"/>	View	Q	Add New Substance	130	11/21/2019, 13:25	██████████	132103E90003
<input checked="" type="checkbox"/>	View	Q	Add New Substance	129	11/21/2019, 13:19	██████████	132103E90003
<input checked="" type="checkbox"/>	View	Q	Add New Substance	128	11/21/2019, 13:09	██████████	132103E90003
<input checked="" type="checkbox"/>	View	Q	Add New Substance	127	11/21/2019, 13:04	██████████	132103E90003
<input checked="" type="checkbox"/>	View	Q	Add New Substance	126	11/21/2019, 13:01	██████████	132103E90003
<input type="checkbox"/>	View	Q	Add New Substance	125	11/21/2019, 12:56	██████████	132103E90003
<input type="checkbox"/>	View	Q	Add New Substance	331	11/13/2019, 09:10	██████████	132003E90001
<input type="checkbox"/>	View	Q	Add New Substance	328	11/12/2019, 15:28	██████████	132003E90001

The Super Admin/Privileged Admin can select all wanted measurements in the new library and then click "Done". This will allow the Super Admin/Privileged Admin to return to the new library and view the chosen spectra, please see picture below.

The screenshot shows the Serstech ChemDash Pharma interface. The top navigation bar includes 'Home', 'Devices', 'Data', 'Case Reports', and 'Admin'. A search bar contains 'name@server.com'. The breadcrumb trail is 'Home / Data: Libraries / Library'. The main heading is 'API production shift 4'. Below it, there are buttons for 'Publish Library', 'Check in Changes', and 'Discard Changes'. A 'Mod' section shows 'Version: 1 (Checked out by you)' and 'Number of Substances: 7'. There are also buttons for 'Add Substance', 'Selection', and 'Library Properties'. A table below shows a list of substances with columns for Tag, Substance Name, Substance CAS, Class, and Substance Info. Each row has a 'View' button.

Tag	Substance Name	Substance CAS	Class	Substance Info
A-126	A-126		Uncategorized	Custom
A-127	A-127		Uncategorized	Custom
A-128	A-128		Uncategorized	Custom
A-129	A-129		Uncategorized	Custom
A-130	A-130		Uncategorized	Custom
A-131	A-131		Uncategorized	Custom
A-344	A-344		Uncategorized	Custom

3.2.3 Edit new library

The Super Admin/Privileged Admin can click on the "View" button for a library entry to inspect the spectrum itself as well as the associated substance information. In order to enter the edit mode, the Super Admin/Privileged Admin can click on the "Edit" button. This will enable to update all information in the library record (except the spectrum data itself), please see picture below.

The screenshot shows the 'Substance: A-126' edit form. The breadcrumb trail is 'Home / Data: Libraries / Library / Substance'. The form includes a 'Tag' field with 'A-126'. The 'Substance basic information' section contains fields for 'Substance Name' (API prod.123), 'Substance synonym names', 'CAS numbers' (123-45-6), and 'Substance class' (Narcotic, Explosive, Toxic, Hazardous, Regulated). A 'Spectrum' plot is shown on the right, displaying 'Counts' vs 'cm-1'. The plot shows a complex spectrum with a major peak at approximately 1450 cm-1. The y-axis ranges from 0 to 30000, and the x-axis ranges from 400 to 2200 cm-1.

The screenshot displays the ChemDash Pharma interface, divided into two main sections: 'References' on the left and 'Measurement information' on the right.

References Section:

- Header: Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
- Checkbox: Enable GHS information for this substance
- GHS version: (Rev.6) (2015)
- Classification and labelling:
 - Hazard class: Explosives
 - Hazard category: Unstable explosive
 - Warning: Danger Unstable explosive (H200)
- Precautionary statement(s):
- 1. Identification:
- 2. Hazard(s) identification:
- 3. Composition/information on ingredients:

Measurement information Section:

- Device: Spectroscopist 132103E90003 Default: Admin
- Ambient temperature (°C):
- Ambient humidity (R):
- Ambient pressure (kPa):
- Total exposure time (s): 83.16964698791504
- Number of exposures: 10
- Aggregation state:
 - Liquid
 - Gas
 - Solid
- Excitation wavelength (nm):
- Spectral resolution (nm):
- Spectral wavenumber resolution (cm⁻¹):
- Laser power (mW):
- Time: 11/21/2019, 14:01
- Geographical coordinates:
- Measurement location description:
- Measurement notes:

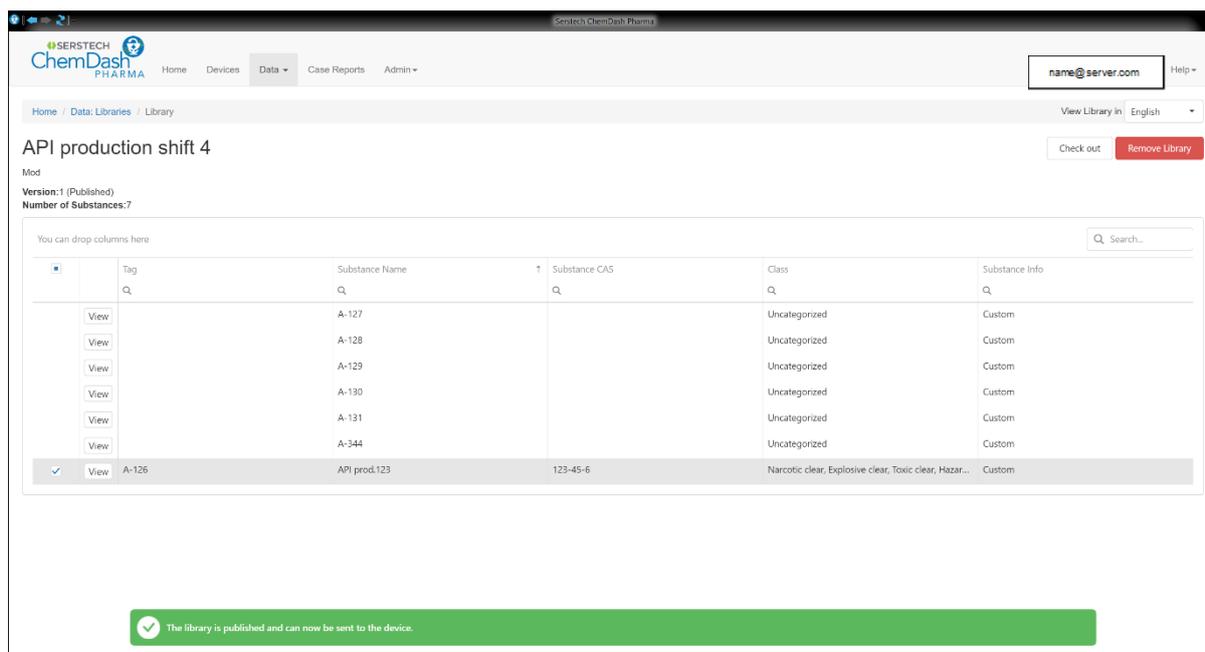
The data directly below the substance name heading, represent information shown to the instrument User when a match to this substance is found in the field. ChemDash Pharma supports two types of information; GHS and Custom. GHS (Globally Harmonized System of Classification and Labelling of Chemicals) is substance information formatted according to the international GHS standard. ChemDash Pharma fully supports GHS, including relevant warning pictograms which are shown to the field officer when using the Serstech 100 Indicator product. The ChemDash Pharma input form makes it easy to add GHS- formatted information to Users' library records.

The Custom option allows the Super Admin/Privileged Admin to add custom information, e.g. specific handling procedures or responder actions to be performed when the substance in question has been identified.

Thus, the combination of GHS and Custom information makes for a very flexible solution which can adapt to the Super Admin/Privileged Admin needs over time. The data on the right side of the screen (below the spectrum plot) is internal information only. It is reference information related to the measurement situation; type of instrument used etc. This is never displayed in the instrument in the event of a match to this library entry but only visible to ChemDash Pharma Users.

3.2.4 Send the new library to a Serstech 100 Indicator

In case the Super Admin/Privileged Admin want to download in the indicator the created library has to first go back to the Data: Libraries section. This is done by first selecting the relevant libraries and then click on the "Selection" button in the top right section of the page. From there it is possible to choose the "Send to Indicator" option. This will open a dialog where the Super Admin/Privileged Admin can choose the Indicators which should receive the new reference library, please see picture below.



Home / Data: Libraries / Library

API production shift 4

Mod

Version: 1 (Published)

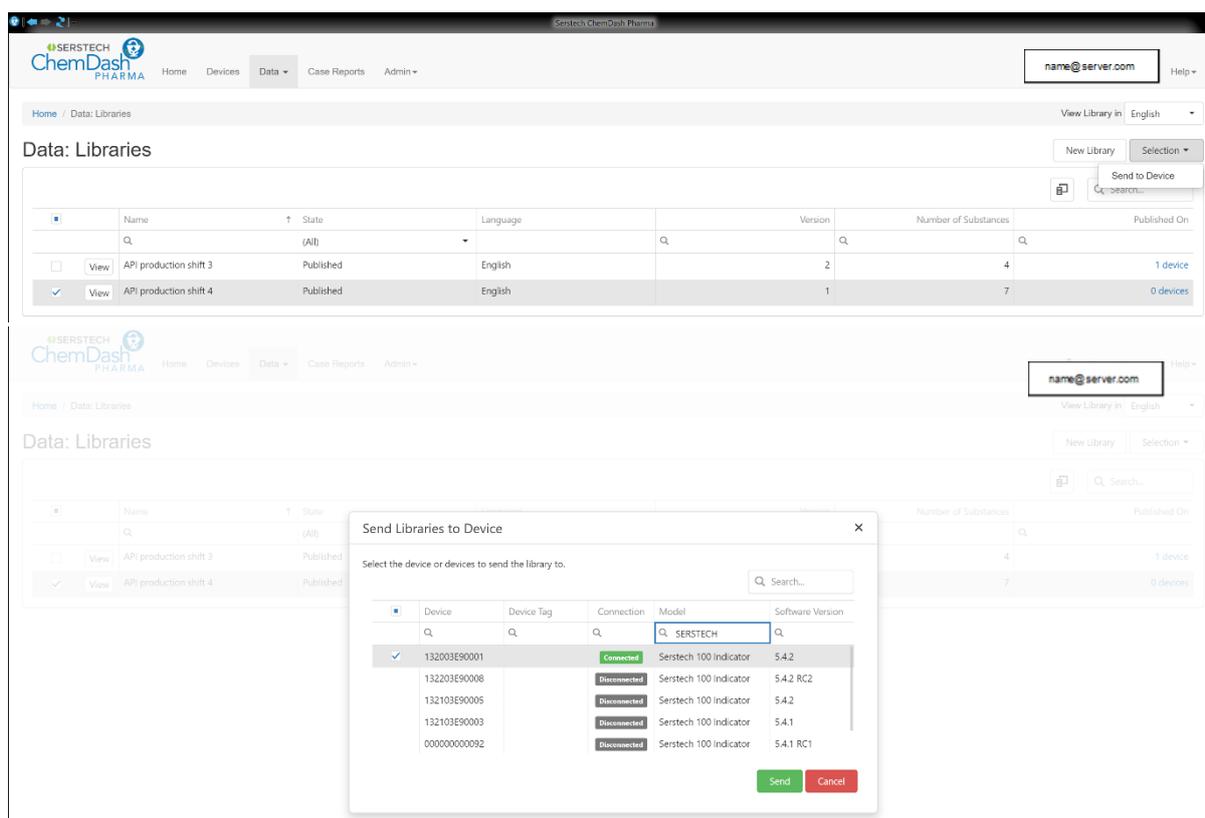
Number of Substances: 7

You can drop columns here

Tag	Substance Name	Substance CAS	Class	Substance Info
A-127	A-127		Uncategorized	Custom
A-128	A-128		Uncategorized	Custom
A-129	A-129		Uncategorized	Custom
A-130	A-130		Uncategorized	Custom
A-131	A-131		Uncategorized	Custom
A-344	A-344		Uncategorized	Custom
A-126	API prod.123	123-45-6	Narcotic clear, Explosive clear, Toxic clear, Hazar...	Custom

The library is published and can now be sent to the device.

The Super Admin/Privileged Admin can then click on "Send" to initiate the download. From the Data: Libraries section User can now review the number of Indicators which have a particular library loaded, please see pictures below.



Home / Data: Libraries

Data: Libraries

Name	State	Language	Version	Number of Substances	Published On
API production shift 3	Published	English	2	4	1 device
API production shift 4	Published	English	1	7	0 devices

Send Libraries to Device

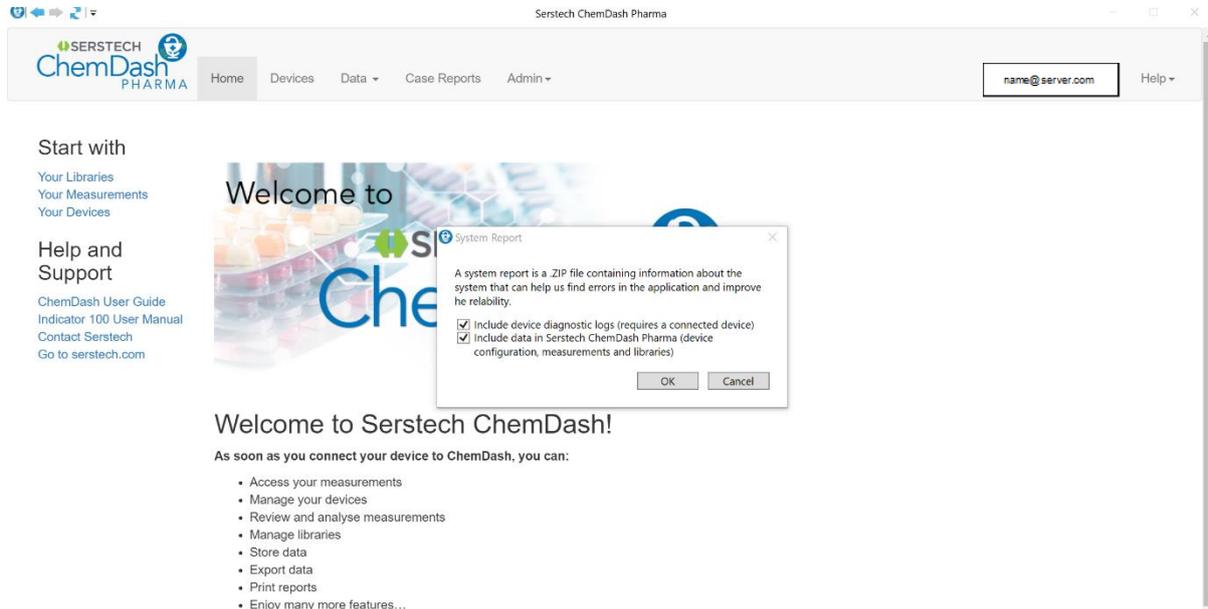
Select the device or devices to send the library to.

Device	Device Tag	Connection	Model	Software Version
132203E90001		Connected	Serstech 100 indicator	5.4.2
132203E90008		Disconnected	Serstech 100 indicator	5.4.2 RC2
132103E90005		Disconnected	Serstech 100 indicator	5.4.2
132103E90003		Disconnected	Serstech 100 indicator	5.4.1
000000000092		Disconnected	Serstech 100 indicator	5.4.1 RC1

4.0 Create System Reports

There are many support troubleshooting situations that requires the system logs both from ChemDash Pharma and the Indicator in order give quick and efficient

support. In ChemDash Pharma, all the data and logs are stored locally. Therefore, a system report function has been implemented. The Super Admins and privileged Admins can reach this function through: Help: System report, please see picture below.



Selecting the System Report options. The Super Admin/Privileged Admin can choose what logs to collect:

- Indicator logs (requires connected device),
- Data from ChemDash Pharma (device configuration, measurements, libraries).

Selecting OK, ChemDash Pharma will create a .zip file, with a timestamp in the filename. This .zip file contains the logs and data that the User wants to extract. The created .zip should then be sent to Serstech support email (support@serstech.com).

In case the Super Admin/Privileged Admin/User face critical errors on the Indicator, should try to extract system reports before do anything else with the device. Just because the display does not work, it does not mean that ChemDash Pharma cannot extract crucial log from the Indicator.

For information regarding how to use the Serstech 100 Indicator, please read the corresponding manual.

5.0 User Management

In the User Management section, only the Super Admin can disable or activate the admin privileges for the ChemDash Pharma application on other user accounts that have been imported from the same server or domain.

Start with
Your Libraries
Your Measurements
Your Devices

Help and Support
ChemDash User Guide
Indicator 100 User Manual
Contact Serstech
Go to serstech.com

Welcome to Serstech ChemDash!

As soon as you connect your device to ChemDash, you can:

- Access your measurements
- Manage your devices
- Review and analyse measurements
- Manage libraries
- Store data
- Export data
- Print reports
- Enjoy many more features...

Find more in depth information in the User Guide or read more about ChemDash here...

Administration: User Management

Update Users | Export Users History

Domain	Name	Edit	Type	Version	Version Group
AzureAD	jw@serstech.com			0	2019-11-04 15:43:42
AzureAD	alexandru.muresan@serstech.com			0	2019-11-04 15:43:42
AzureAD	sf@serstech.com			0	2019-11-04 15:43:42
AzureAD	eh@serstech.com			0	2019-11-04 15:43:42
AzureAD	patrick.sorocz@serstech.com			0	2019-11-04 15:43:42
AzureAD	jl@serstech.com			0	2019-11-04 15:43:42
AzureAD	tp@serstech.com			0	2019-11-04 15:43:42
AzureAD	chemdash-pharma@serstech.com			0	2019-11-04 15:43:42
AzureAD	eugen.afodorean@serstech.com			0	2019-11-04 15:43:42
AzureAD	dl@serstech.com	Edit	Disabled	0	2019-11-04 15:43:42

6.0 Database backup and restore

The Database backup and restore function, allows only the Super Admin to schedule when and where the database backup will be created and stored. The Super Admin can decide if the database will create backups on a daily or weekly basis. The Super Admin can also trigger a backup if needed. The import of a backup will allow the database to restore itself in case of failure on the local PC where the ChemDash Pharma application is installed, please see image below.

The screenshot shows the Serstech ChemDash Pharma Admin interface. The top navigation bar includes Home, Devices, Data, Case Reports, and Admin. The user is logged in as name@server.com. The current page is 'Admin: Database Backup and Restore'. It features two main sections: 'Backup database' and 'Restore database'. The 'Backup database' section has a 'Backup location' field with the text 'User Name\Storage folder', a 'Select new location' button, and a 'Backup type' section with radio buttons for 'Weekly' and 'Daily' (selected), and a 'Create backup' button. The 'Restore database' section has a 'Select backup' button and a 'Restore backup' button.

7.0 Authentication logs

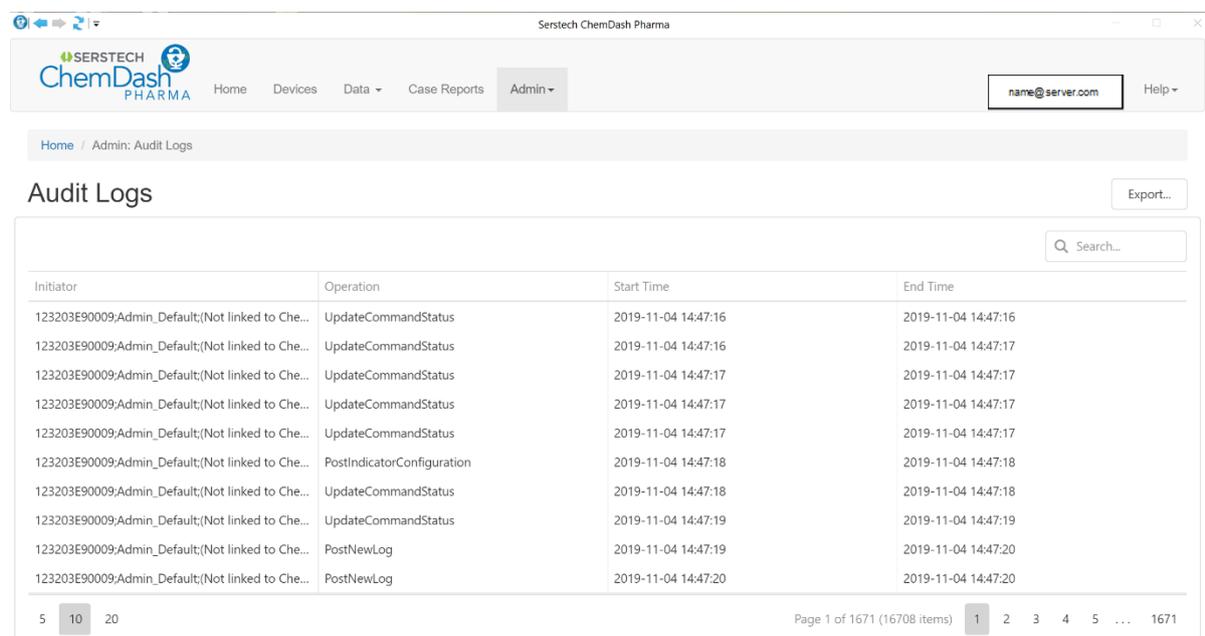
As a Super Admin, in the Authentication logs, you can view a list of user accounts who logged into the application, the date and timestamp of their logging in and from where they logged in. This file can be exported in human readable form and is available for printing, please see image below.

The screenshot shows the Serstech ChemDash Pharma Admin interface. The top navigation bar includes Home, Devices, Data, Case Reports, and Admin. The user is logged in as name@server.com. The current page is 'Admin: Authentication Logs'. It features an 'Export...' button and a search bar. Below is a table with the following data:

Account Name	Event Type	Event Time	Domain Name
em@serstech.com	Successful Login	04/12/2019, 12:44:32	DESKTOP-VO330N3
em@serstech.com	Successful Login	04/12/2019, 09:57:36	DESKTOP-VO330N3
em@serstech.com	Successful Login	04/12/2019, 09:57:34	DESKTOP-VO330N3
em@serstech.com	Successful Login	03/12/2019, 09:42:06	DESKTOP-VO330N3
em@serstech.com	Successful Login	03/12/2019, 09:42:04	DESKTOP-VO330N3
em@serstech.com	Successful Login	02/12/2019, 09:44:29	DESKTOP-VO330N3
em@serstech.com	Successful Login	02/12/2019, 09:44:27	DESKTOP-VO330N3
em@serstech.com	Successful Login	28/11/2019, 21:05:24	DESKTOP-VO330N3
em@serstech.com	Successful Login	28/11/2019, 09:54:59	DESKTOP-VO330N3
em@serstech.com	Successful Login	28/11/2019, 09:54:57	DESKTOP-VO330N3
em@serstech.com	Successful Login	27/11/2019, 09:58:35	DESKTOP-VO330N3
em@serstech.com	Successful Login	27/11/2019, 09:58:33	DESKTOP-VO330N3

8.0 Audit logs

The Super Admin, in the Audit logs, can view a list of Admin/Users who logged into the Indicator, what kind of operation they performed and the duration of their actions with a datestamp and timestamp. This file can be exported in human readable form and is available for printing, please see image below.



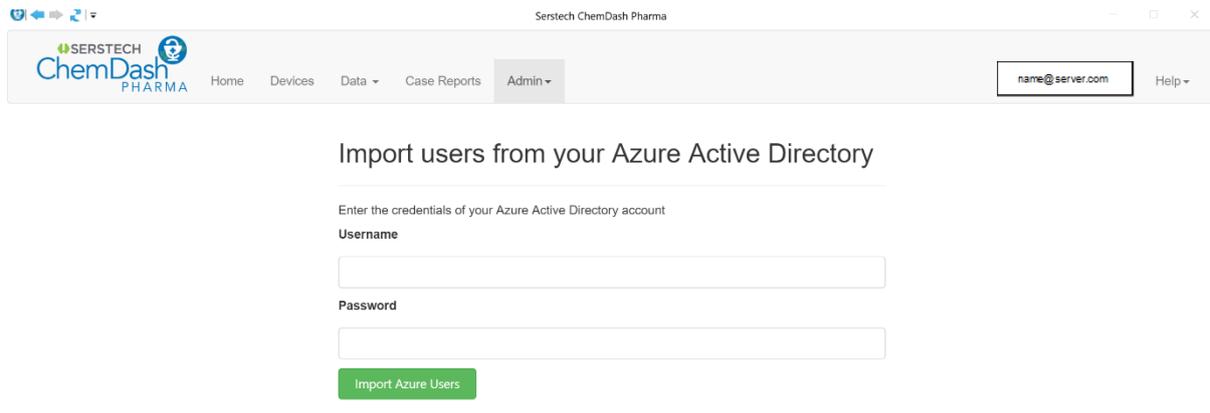
The screenshot displays the 'Audit Logs' section of the ChemDash Pharma application. The interface includes a navigation menu with 'Home', 'Devices', 'Data', 'Case Reports', and 'Admin'. The 'Admin' menu is active, and the user is logged in as 'name@server.com'. The 'Audit Logs' page features a search bar and an 'Export...' button. The main content is a table with the following data:

Initiator	Operation	Start Time	End Time
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:16	2019-11-04 14:47:16
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:16	2019-11-04 14:47:17
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:17	2019-11-04 14:47:17
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:17	2019-11-04 14:47:17
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:17	2019-11-04 14:47:17
123203E90009;Admin_Default;(Not linked to Che...	PostIndicatorConfiguration	2019-11-04 14:47:18	2019-11-04 14:47:18
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:18	2019-11-04 14:47:18
123203E90009;Admin_Default;(Not linked to Che...	UpdateCommandStatus	2019-11-04 14:47:19	2019-11-04 14:47:19
123203E90009;Admin_Default;(Not linked to Che...	PostNewLog	2019-11-04 14:47:19	2019-11-04 14:47:20
123203E90009;Admin_Default;(Not linked to Che...	PostNewLog	2019-11-04 14:47:20	2019-11-04 14:47:20

The pagination bar at the bottom indicates 'Page 1 of 1671 (16708 items)' and shows a list of page numbers: 1, 2, 3, 4, 5, ..., 1671.

9.0 Import Azure users- In case the organization supports Azure Active Directory

The database of ChemDash Pharma is now integrated with the windows user rights system, so it is compatible with Windows Active Directory or Azure Active directory. If your company is using the Azure Active Directory System, as a Super Admin you can import other user accounts from the same domain, please see image below. This integration means that all windows login methods are supported and that the application is protected by group of policys that network administrators enforce. This integration also means that there is no separate login for ChemDash Pharma. The system will check application rights with the windows user ID. Not authorized users will not be able to access ChemDash Pharma. Furthermore all login activity (failed and successful) on the Windows machine will be imported into Chemdash's Audit log allowing central examination by Auditors.



10.0 Disclaimer

Keep in mind that the material and the images used for this manual have been taken with the Super Admin privileges on the ChemDash Pharma application.

**ChemDash Pharma User Manual
Version 1.0**

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