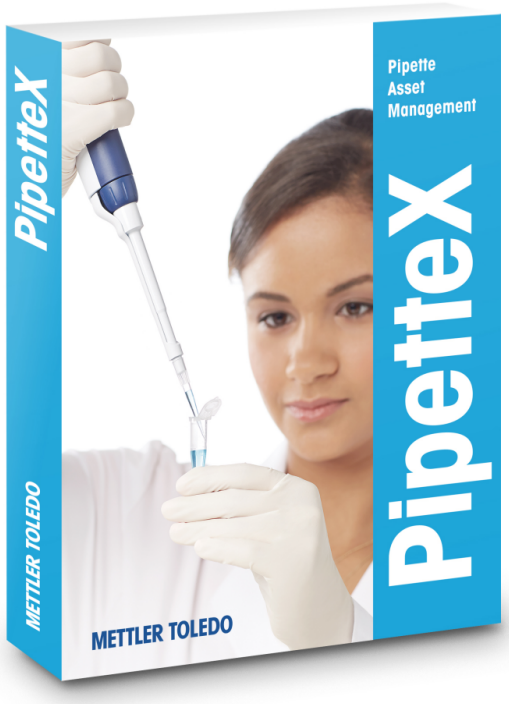
Reference Manual

Rainin PipetteX

Version 4.1



METTLER TOLEDO

Table of Contents

1 About this Guide

This guide describes the tasks that you can perform on the Rainin PipetteX and explains the main features and functions of the application.

1.1 Intended Audience

This guide is intended for those who have access to the Rainin PipetteX Version 4.1.

1.2 Explanation of Conventions

The following conventions are used throughout this guide to emphasize important concepts:

Elements of instructions

Instructions always contain action steps and can contain prerequisites, intermediate results and results. If an instruction contains more than one action step, the action steps are numbered.

- Prerequisites that must be fulfilled before the individual action steps can be executed.

1 Action step 1

➡ Intermediate result

2 Action step 2

➡ Result

2 Introduction

This guide will help you to get started with PipetteX and explain the software's main features and functionalities.

2.1 Easy and Reliable Data Management

Along with the SmartStand, Rainin PipetteX simplifies the management of all your pipettes. The software is designed to work with both METTLER TOLEDO pipettes as well as with other brands. Simply upload your spreadsheet into Rainin PipetteX and manage your assets from there. With SmartStand, you can start tracking your assets throughout the lab. All SmartStands will connect to Rainin PipetteX so you can start measuring the usage data of pipettes and see where pipettes were last seen (helping you locate pipettes that are due for service).

Updating your Rainin PipetteX database is easy when servicing hardware with METTLER TOLEDO: service dates are automatically updated after service in Rainin PipetteX.

With the newest version of Rainin PipetteX, all assets can be stored in a single location allowing them to be shared across your organization in a CFR 21p11 compliant manner.

Smarttags can be affixed to your non-RFID pipettes to enable easy tracking. You can perform routine tests with your SmartCheck™ or from your XPE/XSE/XPR balances and store the results. Calibration and Service certificates can be automatically retrieved from your Ranin Service Center. You can also add Calibration, Service, and other certificates to all the assets.

If you have any additional questions, METTLER TOLEDO, LLC is always available to assist you. Visit us on: ▶ http://www.mt.com/rainin

2.2 Related Documents

For more information, please visit ▶▶ http://www.mt.com/rainin-sstanddocs. Here you will find more tutorials and other documentation or videos.

2.3 End User License Agreement (EULA)

The software in this product is licensed under Rainin PipetteX End User License Agreement (EULA) for software, available at ▶ https://www.mt.com/eula. When using this product you agree to the terms of the EULA.

2.4 Disclaimer

This document may contain inaccuracies or errors of substantive or typographical nature. METTLER TOLEDO does not assume any responsibility or risk for your use of the information provided in this document. Nothing in this document shall be construed as a guarantee or warranty, either express or implied (including without limitation warranties as to merchantability or fitness for a particular purpose). The software described herein may be dependent on various external factors and configurations, such as system configuration, customer data, and operator control.

The implementation of the products this document relates to may vary consequently, the suitability of specific product configurations and applications must be determined by the customer and is not warranted by METTLER TOLEDO. If you rely on the information or any advice, opinion, or statement in this document, you are doing so at your sole risk. To allow improvements, the information in this document is subject to change.

2.5 Use of Third-Party Licenses

PipetteX uses standard components from third parties. An overview of third-party licenses can be found on ▶▶ http://www.mt.com/licenses.

2.6 Help and Support

Several support documents can support your organization to ease the installation of PipetteX. We strongly recommend involving all stakeholders in your organization from day 1 if you are considering a distributed system setup or validation of the software.

Topic	Document	Found where?
Hardware requirements	Installation instructions	▸www.mt.com/pipetteX
System / server configuration	Installation instructions	▸www.mt.com/pipetteX
System validation (CFR 21p11)	Validation Handbook 1 and 2	▸www.mt.com/pipetteX
Security configuration	Whitepaper	On request
Peripherals configuration	Operating instructions	▸www.mt.com/pipetteX
Trouble shooting	Operating instructions	▸www.mt.com/pipetteX

If you have questions about the software, there are two places to look for more information. By clicking on the ? in the menu ribbon you can either select Help or Support. Help will provide you with the manual you are currently reading. The Support button will take you to the PipetteX support website, ▸www.mt.com/rainin-sstanddocs, where you can find many support videos, all documentation as well as a request form to add new models to the database.

3 Getting Started

We strongly advise you to read the sections [Considerations before installing ▸ Page 10] and [Getting setup: Quick and Easy ▸ Page 13] and follow the steps in the order presented. It is assumed that you log in to PipetteX with admin privileges. If you have logged in as a different user without admin privileges, you might be limited in what you can see and do with the application. Refer to the user role reference table in the [Appendix ▸ Page 149] section to see what you can do with the role your administrator has assigned you.

3.1 Considerations before installing

To make the installation of Rainin PipetteX as straightforward as possible we would strongly advise you to think through the following scenarios to define what version of Rainin PipetteX as well as setup is best for you.

3.1.1 What license do I need?

All Rainin PipetteX licenses are subscription-based that expire after 1 year. All licenses have to be activated after 60 days. If the license is not activated after 60 days, it will stop working until activated.

Types of license:

Free license:
You can start using this version out of box but you will not have unlocked all aspects of the application.

Paid license:
There are 2 versions of paid licenses:

- **Base licenses**: this will determine how many assets you can manage and will unlock most of the features, except the audit trail. There are two base licenses: site and unlimited.
- **Audit trail (optional):** this license will unlock the audit trail functionality and has to be purchased on top of the base license.

System Integration license for LabX Application Programming Interface (API):
System Integration license should be activated on LabX. This license will enable communication between PipetteX and LabX using API. This is required to fetch test reports from PipetteX generated by SmartCheck when performing a routine test.

The table below will help you to make the right decision on your license choice as well as IT setup.

Considerations	Free version	Paid version	See also
How many pipettes?	200	1500 or unlimited	Installation instructions - Licenses
Routinely verify pipettes?	Connect 5 SmartChecks	200 or unlimited SmartChecks / Balances with full connectivity	[Configuring the hardware ▸ Page 55]
Speed up your processes?	Connect 5 RFID readers	200 or unlimited readers	[Configuring the hardware ▸ Page 55]
Need electronic records?	Add manually	Captured automatically	[Automation logic ▸ Page 28]
Require 21 CFR Part 11 compliance?	Not possible	Can be activated as an option	[Validation ▸ Page 18]
Share PipetteX between multiple labs or locations?	Not possible	Setup a central server within your network and share 1 license between multiple labs. Each can have their own view on the data.	[Views ▸ Page 140]

Considerations	Free version	Paid version	See also
What is your strategy to mitigate data loss?	Frequent manual backups of the local database on the PC	Per your IT back-up policies on your own server.	[Scheduling ▸ Page 123] [Utilities ▸ Page 145]
Who will be the system administrator?	PC owner only	In a distributed setup consider an IT Admin (person independent) and potentially sub-admins, to guarantee continuous system access.	[Users ▸ Page 83]

3.1.2 Do I want to test my pipettes routinely?

Routinely testing your pipettes is a great tool to ensure your pipettes are performing according to spec and help you catch out-of-specification events early. By defining the methods according to which the routine test has to be performed and then assigning it to a pipette you ensure that the routine test is performed in the right way.

The most important decision to make is what methodology you want to test. There are two ways:

3.1.2.1 Test to process tolerance

By testing your pipette to process tolerance, you test whether your pipetting procedure (this includes the instrument, liquid, user, and the pipetting environment) fulfills your process tolerance level criteria. In the day-to-day operations, this is probably more relevant to you than testing whether the instrument meets manufacturer criteria (which are typically very tight and hard to achieve in non-controlled environments, even by experienced users). Besides a higher relevance, the procedure of testing to process tolerance is shorter: it only takes four readings. To test against your process tolerance, you can use either SmartCheck or the XPR/XSR balance.

Note

- SmartCheck, XPR, and XSR balances have their tolerance limits. If you use any of the two in connected mode with PipetteX, PipetteX verifies the test equipment limits automatically and blocks the test procedure if the to-be-tested tolerance profile of your pipette is outside the test equipment tolerance limits.

3.1.2.2 Test to ISO 8655

By testing your pipette to ISO 8655 specs, you are focusing on the performance of the instrument and determining whether it fulfills the random and systematic error ranges set in ISO 8655. This could be relevant if you want to test the instrument limits, but it typically takes more time.

To test against ISO 8655 specs, you need an XPE/XSE/XPR/XSR balance that measures up to 5 or 6 decimal places (according to ISO 8655 requirements). The SmartCheck cannot perform an ISO 8655 test.

PipetteX has all the specs from ISO 8655 and can automatically assign the correct values from ISO to the pipette if you choose ISO 8655 as your test method. You do not need to enter these values manually in PipetteX.

3.1.2.3 What hardware do I need

The table below explains the different hardware possibilities you must have.

SmartCheck hardware configurations

	Standalone	Connected	Autonomous
Method control			
SmartCheck tolerances	•	•	•
Control from method to execution to result		•	•
Result calculation			
Based on pre-set tolerance of SmartCheck	•		

	Standalone	Connected	Autonomous
Based on pipette individual tolerances		•	•
Result capture			
Electronic (PipetteX)		•	•
Update next routine test date			
Manual	•		
Automatic		•	•
Hardware requirements			
SmartCheck	•	•	•
RFID reader			
RFID/LAN gateway		EasyScan USB	EasyScan USB
RFID Tag		Rainin / SmartTag	Rainin / SmartTag
Gateway			Silex Gateway

XPE/XSE/XPR balance configurations

	Manual	Semi-Automated	Automated	Guided
Method control in PipetteX	•	•	•	•
Execution control on balance		•	•	•
Result calculation				
ISO 8655	•	•	•	•
Process tolerance			•	•
Result capture				
Print-out	•	•		
Electronic (PipetteX)			•	
Update next quickcheck date				
Manual	•	•		
Automatic			•	•
Hardware requirements				
Balance				
Balance	Any	XPE, XSE	XPE, XSE	XPR
Accessory			LAN port for balance	LAN and USB ports for balance
Evaporation Trap		SmartCheck trap	SmartCheck trap	
RFID				
Reader		EasyScan Flex Reader	EasyScan Flex Reader	
RFID Tag		Rainin SmartTag Method Card	Rainin SmartTag	

	Manual	Semi-Automated	Automated	Guided
Printer	Any	XPE, XSE compatible		XPR compatible

Note

- Refer the PipetteX Installation guide (chapter 3.3) for hardware part numbers.

3.2 Downloading the Software

The PipetteX software can be downloaded via the URL below. The executable file size is ~500MB and depending on your internet connectivity speed, the download might take between 10-40 minutes. Prior to installing the software, see the installation manual, which can be found on:

PipetteX SW Download: ▸ http://www.mt.com/pipettex

Installation Instruction: ▸ http://www.mt.com/rainin-sstanddocs

3.3 Getting setup: Quick and Easy

Getting setup is simple. Depending on your requirements, certain steps may not be required.

Step	Description	More info
1	Download the software	[Downloading the Software ▸ Page 13]
2	Install or update	See Installation instructions or [Upgrading your Existing PipetteX ▸ Page 14]
3	Login	[Logging in for the First Time ▸ Page 16]
4	Activate your license	[Activating your license ▸ Page 16]
5 (optional)	Consider the validation configurations and validate software	[Validation ▸ Page 18]
6	Set up your addresses	[Addresses ▸ Page 78]
7 (optional)	Set up additional user roles	[User Roles ▸ Page 80]
8	Set up your users	[Users ▸ Page 83]
9 (optional)	Set up routine test methods	[Methods ▸ Page 95]
10 (optional)	Set up test plans	[Test Plans ▸ Page 98]
11 (optional)	Set up your peripherals	[Configuring the Hardware ▸ Page 55]
12	Import your assets	[Assets (Pipettes) ▸ Page 100]
13 (optional)	Release your: • assets • peripherals • methods + test plans	[Configuring the Hardware ▸ Page 55]
14	Synchronize data	

3.4 Upgrading your Existing PipetteX

3.4.1 Upgrade from EasyDirect PAM 1.x to PipetteX 3.x

If you are migrating from EasyDirect PAM 1.x, read through the scenario below to define your path of migration. Otherwise, continue to section License Activation and Management.

Upgrade path	PipetteX setup before upgrade	Recommended license for PipetteX	Actions required
1.x to PipetteX 3.x	Standalone **and** ≤200 assets and/or ≤5 connected SmartStands	Standalone (free version) Connected version (either Site license or Unlimited license). You can decide for standalone or distributed installation	1 Export all asset information from your 1.x installation, using the export functionality on the asset tab. You cannot export the data from the address tab or users tab. If you have a large database, contact METTLER TOLEDO before continuing. 2 Remove EasyDirect PAM 1.x, including the database. 3 Install PipetteX 4 Activate your license 5 Import all your assets using the import functionality of PipetteX
	Standalone **and** >200 assets and/or >5 more connected SmartStands	Connected version (either Site license or Unlimited license). You can decide for standalone or distributed installation	1 Export all asset information from your 1.x installation, using the export functionality on the asset tab. You cannot export the data from the address tab or users tab. If you have a large database, contact METTLER TOLEDO before continuing. 2 Remove EasyDirect PAM 1.x, including the database. 3 Ensure you purchase the correct license key 4 Install PipetteX 5 Activate your license 6 Import all your assets using the import functionality of PipetteX

3.4.2 Upgrade from EasyDirect PAM 2.x to PipetteX 4.x

You cannot upgrade directly from EasyDirect PAM 2.x to PipetteX 4.0.1 or later version. To upgrade to any of these versions, you must first upgrade to 4.0.

Note

PipetteX versions lesser than 3.0 are not supported.

NOTICE

Distributed systems

For those that have deployed EasyDirect PAM 2.x as a server-client system, follow the steps below.

To upgrade from EasyDirect PAM 2.x to PipetteX 4.0, follow the steps below:

1 To download the PipetteX version 3.x or above until 4.0, contact your local METTLER TOLEDO representative.

2 Create a backup of your database (you can use the DB utility tool for this or run a backup with your SQL tools), see the section [Database Utility ▸ Page 145].

3 Go to your business server environment and run the `PipetteX Setup.exe` file and choose to run:
a. the business server component
b. the database component
c. install the Silex Virtual Link lite component on your business server. See the section [Gateway ▸ Page 64] for more information on the Silex Virtual Link lite component

4 Update every connected client by running the `PipetteX Setup.exe` file and choose to run the client part.

5 Reconnect every client to your business server using the wizard of PipetteX.

➡ EasyDirect PAM application will be migrated to PipetteX.

Once PipetteX 4.0 is installed, the application automatically checks for new updates every day (if connected to the internet), informs you, and lets you install the update. You can also manually check if the latest version of PipetteX is available from the **About** window.

Note

- When installing PipetteX 4.0, the existing database will be automatically upgraded (if applicable).
- The Timezone selection pop-up appears during the upgrade from 2.x to 4.0.
- After upgrading from EasyDirect PAM 2.x to PipetteX 4.0, proceed with upgrading to PipetteX 4.0.1 or above.
- **Distributed Setup**:
  - Before you initiate the software upgrade process in a distributed setup. Ensure the latest setup file of PipetteX is available in the Business Server and all the client hardware (see C:\Users\Public\Mettler Toledo\EasyDirect PAM\Updates).
  - After a successful upgrade, all existing user configurations (e.g., language settings, column chooser, user roles, notifications, methods, or auto export configuration) set in the previous version may change. You must configure it again in the new software version.

3.4.3 Upgrade from PipetteX 3.x to PipetteX 4.x

You can upgrade from PipetteX 3.x to PipetteX 4.x by downloading the software from ▸ http://www.mt.com/pipettex and running the .exe file. Your PipetteX 3.x application should automatically migrate to PipetteX 4.x.

It is strongly advised to back up your database and read the breaking changes (in the installation wizard) before running the upgrade.

Note

- Ensure you have appropriate DB backup rights.
- Ensure you update the business server first, followed by the client-server to use PipetteX.
- The Timezone selection pop-up appears during the upgrade from 3.x to 4.x. The Timezone selection does not appear when upgrading from 4.x to higher versions.

1 Download PipetteX 4.x.

2 Make a backup of your database (you can use the DB utility tool for this or run a backup with your SQL tools). See the section [Database Utility ▸ Page 145].

3 Go to the business server environment, run the `PipetteX Setup.exe` file and choose to run:
a. the business server component
b. the database component
c. install the Silex Virtual Link lite component on your business server. See section [Gateway ▸ Page 64] for more information on the Silex Virtual Link lite component

4 Update every connected client by running the `PipetteX Setup.exe` file and choose to run the client part.

5 Reconnect every client to your business server using the wizard of PipetteX 4.x.

3.5 Logging in for the First Time

- If you have never logged in to PipetteX before or you still have to set up PipetteX for the first time, you must follow the manual sign-in procedure.

1 Manual sign-in is possible using the desktop shortcut or from the start menu **METTLER TOLEDO > PipetteX/PipetteX with Login**.

2 Use "Admin" (capital A) for both **User ID** and **Password**.

3 It is recommended to change the password of the default admin account.

4 Consider your account and password policies. For more information, see section [Security ▸ Page 131].

5 If you have activated SSO under **Settings** > **Settings (with policies)** > **Security**, you can start setting up the SSO user accounts for future log-ins.

3.6 Activating your license

You can try each license edition for up to 60 days without activating it (this is especially handy to test a distributed setup within your organization). You can use the same license key 2x, even on different hardware if needed (this option is meant for reinstall purposes only). Be aware though that when a key is re-used, the installation on the old hardware will be deactivated on the activation portal and connectivity to the server (in case of a distributed scenario) will be lost for the instance. You can use the license key for EasyDirect PAM 2.0 also for PipetteX.

You can refer to the installation instructions for details on the activation process of your license. You can find the installation instructions on

▸ http://www.mt.com/rainin-sstanddocs

3.7 Check for Software Updates

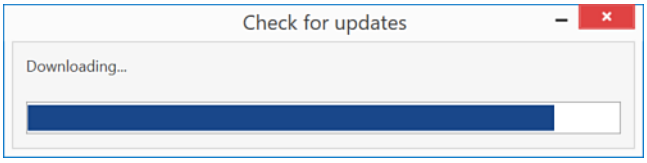
If installed on a PC with internet connection, PipetteX provides the availability to check for a newer version of PipetteX or for a newer software version of the connected SmartStands.

- Click **About** in the ribbon bar.

The About window appears.

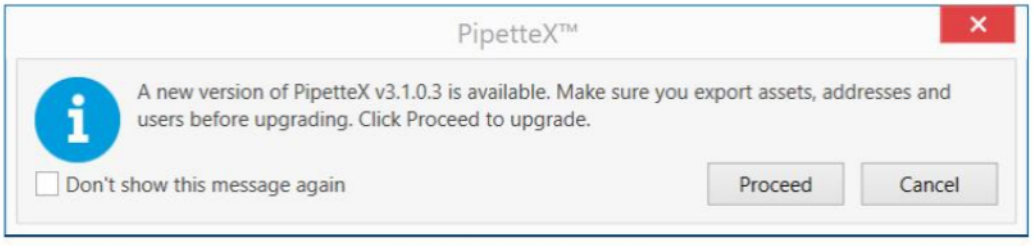
- Click **Check for updates** which can be found below the End User License Agreement link on the Box Dialog.

If a newer version can be found, it will be downloaded.

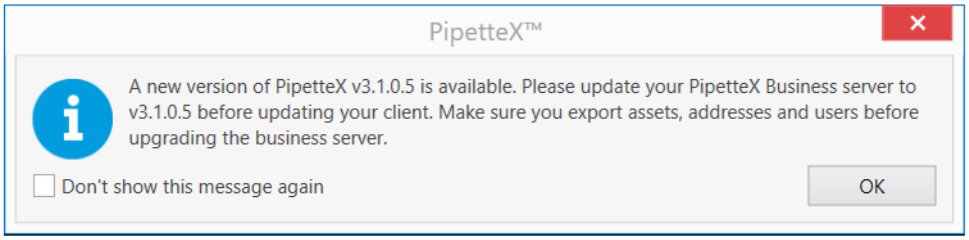


- Click **Yes** if you want to install the new version of the software.

For Standalone case, you will get the following dialog box.



For Distributed case, you will get the following dialog box.



Note

After downloading the update, the `PipetteX Setup.exe` can be found in "C:\Users\Public\METTLER TOLEDO\PipetteX\PipetteX Update\" folder.

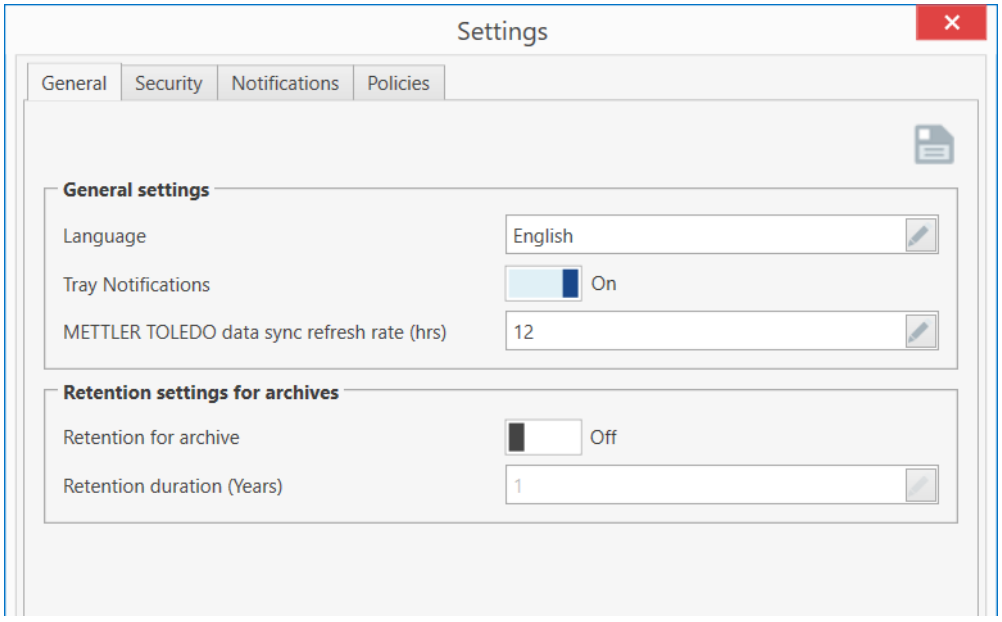
3.8 Language Settings

The default language is set according to the Windows OS language configuration. If the Windows OS language is not supported by Rainin PipetteX, **English** is set by default.

To change the language, follow the steps below:

1 Select **Settings** from the ribbon.

➡ The **Settings** dialog is displayed.



2 Select the language from the drop-down list.

3 Click **Save**.

4 Validation

4.1 Validating PipetteX

PipetteX has extensive functionality that supports you in fulfilling 21 CFR Part 11 requirements. Some of the functions need an additional license, which requires a yearly renewal. For an overview of the different license options, refer to the Installation Instructions.

▸ http://www.mt.com/rainin-sstanddocs

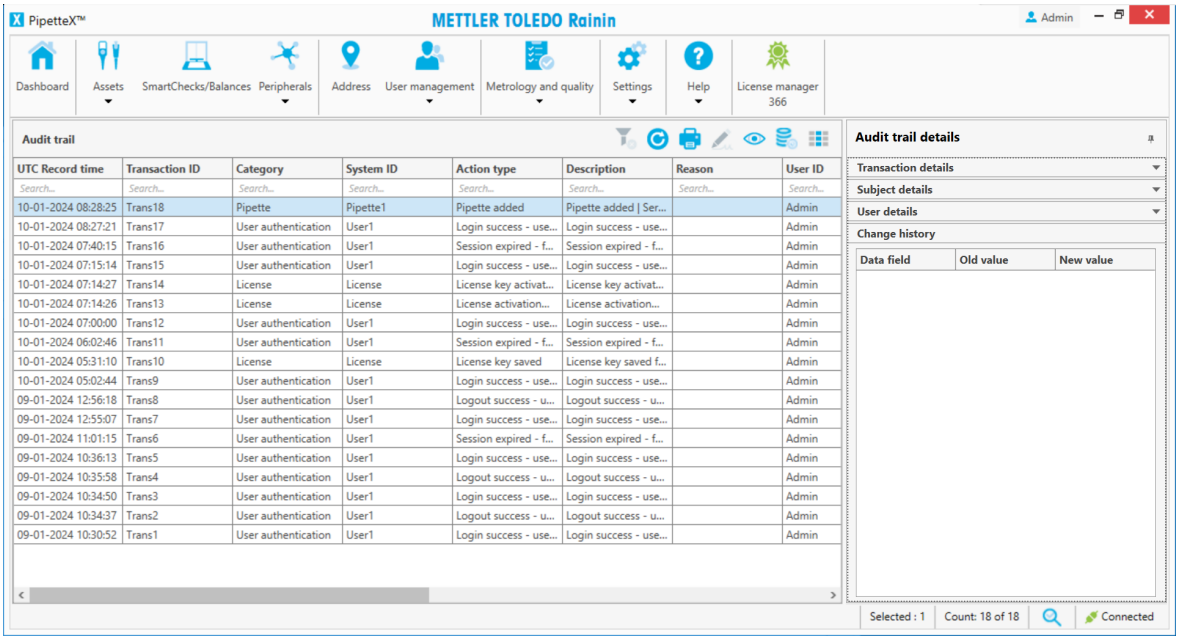
You can find an overview of the features built into PipetteX to help you fulfill 21 CFR Part 11 compliance. Some functionality will switch on per default as soon as you activate the validation license.

Feature	Requires validation license	Default setting
Account Policies and Authentication for Local Users		Switched On
Account Policies and Authentication for Active Directory Users		Switched On
Extensive roles and user management		Switched On
Electronic signature policies		Switched On
Release policies		Switched On
Audit Trail	X	Switched On
Backup and Restore functionality		Available
Archiving functionality	X	
Installation checker		Available

For validation of the Software, three validation handbooks exist. These help you to validate the software and document the validation for your purposes. For an overview of the validation manual options, refer to the Installation Instructions.

4.2 Audit trail

PipetteX has an extensive Audit Trail functionality that tracks all changes as well as actions taken in the software. To view the audit trail, click **Audit Trail** under **Metrology and quality** in the top ribbon. An overview of all system transactions is provided.



The following functionalities are available:

- **Print record:**
  Select a record and click the icon. A PDF will be generated that can be printed
- **Review and e-sign the audit trail:**
  - Select all records in the overview, including the latest reviewed record. All selected records will be e-signed.
  - Click the e-sign icon.
  - You can add a comment. If you want to use pre-defined comments, you must first set them. For more information, read the section [Comments ▸ Page 124].
  - Click the e-sign icon
  - If you have the required user rights, you must identify yourself. Two e-signs (review and approve) are needed if a second-level (approve) e-sign is enabled in the policy window. The **Approval state** of an object will change to **Reviewed** after the first e-sign and to **Approved** after the second e-sign.

    User rights are set under policies. For more information, read the section [Policies ▸ Page 20].
  - All selected records are marked as reviewed, and the columns **Reviewed by** and **Reviewed on** (UTC time zone) will be filled.

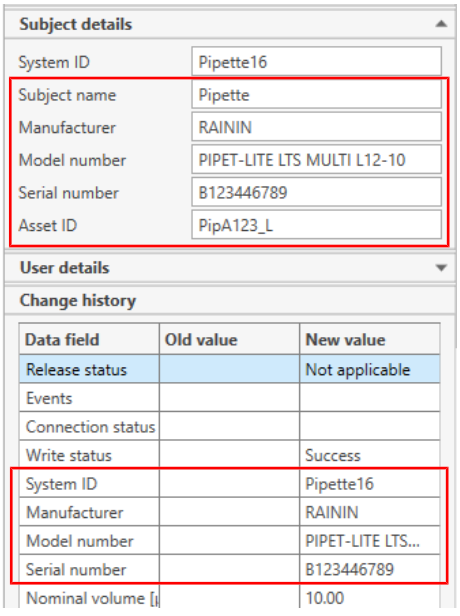
    Note

    You cannot e-sign the records with action types **Audit trail reviewed** and **Audit trail approved**. The e-sign status of these records is set to **Not Applicable**, and the e-sign option is disabled.
- **Simple filtering:**
  By clicking the icon, you can quickly filter the view to see, e.g., records of the last 24hrs, only by your activities, or type of action.
- **Adding in an archive file:**
  PipetteX allows you to archive data to minimize the database size. To do so, use the DB utility tool (see section [Database Utility ▸ Page 145]). You can bring archived data back into view by clicking the icon. Select the file you want to get back.

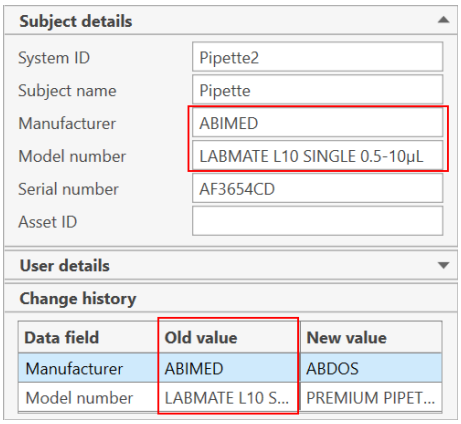
Note

- You cannot modify the archived records.
- You can enable the second-level e-sign only if the first-level e-sign is enabled.
- **Subject details:**

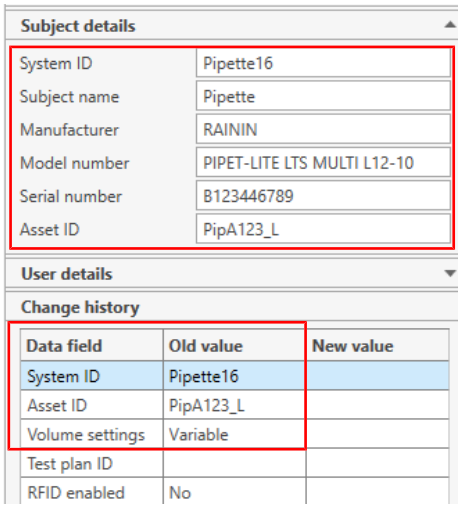
  The subject details display information based on the following actions performed.
  - When you add or insert a record, the **Subject details** shows the new values.



– When you update or make any changes to the record, the **Subject details** shows the old values.



– When you delete a record, the **Subject details** shows the old values.



4.3 Policies

In PipetteX, besides user rights, you have two policy features that further support compliance:

Release policies

You can set a release policy for the tabs **Assets**, **Readers**, **Balances**, **Methods**, and **Test Plans**. Any record saved on one of those tabs cannot be edited or measured without being released. To release the record, the user with the correct user role and the proper permission for the address can release the record. The record remains locked for other users until it is released.

e-sign policies

An e-sign policy can apply to asset documents (Pipettes and Balances certificates or verification reports), Methods, Audit Trail, and Qualification reports. Users with the correct user role and proper permission for the address can e-sign the record. You can enable the second-level e-sign (**Approve**) in the policy window only if the first-level e-sign (**Review**) is enabled.

One can also apply a 4-eye principle. For example, documents uploaded by a user with e-sign permission cannot be signed off by the same user (henceforth, require a separate user with e-sign permission to sign off on the record).

The table below lists the different e-sign statuses for the documents or records.

Icon	Description
	The e-sign policy is disabled and not applicable to the document.
	The document is pending for first-level e-sign, and second-level e-sign is disabled.

Icon	Description
	The document is pending for first-level e-sign and second-level e-sign.
	The document is e-signed. The first-level e-sign for the document is completed, and the second-level e-sign is disabled.
	The document is partially e-signed. The first-level e-sign for the document is completed and pending for the second-level e-sign.
	The document is e-signed. The first-level e-sign and second-level e-sign for the document are completed.

To apply policies, you need to use two settings:

1. **User rights:** the user that needs to manage the policies should be able to see the **Policies** tab. This can be set under user rights, see section [User roles ▸ Page 80].
2. **Policy activation:** the policy must be active and assigned to the address. This is managed under [Policies ▸ Page 136].

4.4 ALCOA+

There are five criteria used for data integrity based on the acronym ALCOA that was developed in the 1980s by an FDA inspector for his colleagues. This was expanded in 2010 into nine criteria and this is known as the ALCOA+ criteria that are listed below:

- **Attributable**: Identification of the individual who performed an activity and the date that it was performed (time is also applicable with a computerized system).
- **Legible (and Understandable)**: Can you read the electronic data together with any associated metadata? Legible should also extend to any original data that has been changed or modified by an authorized individual so that the original entry is not obscured.
- **Contemporaneous:** Documented (on paper or electronically) at the time of an activity.
- **Original:** A written observation or printout or a certified or verified copy thereof or an electronic record including all metadata of an activity.
- **Accurate:** No errors in the original observation(s) and no editing without documented amendments / audit trail entries by authorized personnel.
- **Complete:** All data from an activity including any data generated before a problem is observed, data generated after repeating part or all of the work or reanalysis performed on the sample. For hybrid systems, the paper output must be linked to the underlying electronic records used to produce it.
- **Consistent:** All elements of the record such as the sequence of events are consistent and do not contradict each other. Data files are date (all processes) and time (sometimes paper records and all using a hybrid or electronic systems) stamped in the expected order.
- **Enduring:** Recorded on authorized media e.g. laboratory notebooks, numbered worksheets for which there is accountability or electronic media that can last throughout the record retention period.
- **Available:** The complete collection of records can be accessed or retrieved for review and audit or inspection over the lifetime of the record.

Collectively the various data integrity guidance documents encourage system suppliers to design software in a way that encourages compliance with the principles of data integrity. The table below takes the relevant criteria from various regulatory guidance documents and discusses how PipetteX meets them.

Data Integrity Criterion	Implementing for PipetteX v3.x
Data owner	• This role should be allocated to the process owner of the application who typically works in the laboratory. • The data / process owner should ensure that each user has a unique user identity so that actions within PipetteX are attributed to a specific individual.

Data Integrity Criterion	Implementing for PipetteX v3.x
Access to clocks for recording timed events	• For networked installations, the system clock is on the server that the PipetteX software is installed upon and should be synchronized to the network time server. It is assumed that the customer's IT infrastructure has a time server that checks with a trusted time source for accuracy on a predefined frequency (typically from every 5 minutes to daily). • Access to the system clock must be restricted to IT personnel only to prevent sync issues associated with the wrong system clock settings. • PipetteX standalone installations that are not connected to the network will require a procedure for checking and updating the system clock. This should be performed by an individual outside of the operational area to avoid conflicts of interest.
Accessibility of records at locations where activities take place so that ad hoc data recording and later transcription to official records is not necessary	• All data associated with the verification checks on a pipette are stored in the PipetteX database, so collation of data and the associated metadata are in a single location. • If Mettler perform preventative maintenance and calibration of a pipette, the calibration certificate is transferred from the Mettler Calibration system (GPSS) to PipetteX automatically.
Control over blank paper templates for data recording	• Using PipetteX means that the issue of controlled blank templates for recording analytical results and associated data from the execution of a method are not required. • Manual entries into a laboratory notebook are eliminated.
User access rights which prevent (or audit trail) data amendments	• The data / process owner should define user roles and appropriate access privileges to each role. Avoiding conflicts of interest between administrators and laboratory users is key. User access rights should be controlled by an IT administrator.
Automated data capture or printers attached to equipment such as balances	• Automated data capture is performed from all instruments connected to PipetteX. • A printer e.g., for an analytical balance should not be required as this would turn an electronic system into a hybrid one.
Proximity of printers to relevant activities	• If required, printouts of analytical reports and database searches from PipetteX can be achieved using existing network printers. • A far better approach is to automate the process, use electronic signatures and eliminate paper.
Avoiding time traveling	• PipetteX should be installed on a network that should have time synchronization from a trusted time source. • Access to the network clock should be restricted to IT personnel only.
Hybrid systems are not encouraged	• Hybrid systems (signed paper printouts with electronic records) should not be implemented. • There needs to be a move to electronic records with minimal paper printouts for better compliance with regulations and better business efficiency. • PipetteX can operate fully electronically when electronic signatures are enabled.
User access rights which prevent (or audit trail) data amendments	• The data / process owner should define user roles and appropriate access privileges to each role. Avoiding conflicts of interest between administrators and laboratory users is key. User access rights should be controlled by an IT administrator.
Automated data capture or printers attached to equipment such as balances	• Automated data capture is performed from all instruments connected to PipetteX. • A printer e.g. for an analytical balance should not be required as this would turn an electronic system into a hybrid one.

Data Integrity Criterion	Implementing for PipetteX v3.x
Proximity of printers to relevant activities	• If required, printouts of analytical reports and database searches from PipetteX can be achieved using existing network printers. • A far better approach is to automate the process, use electronic signatures and eliminate paper.
Access to raw data for staff performing data checking activities	• All data acquired during an analysis are available in the database for review by a second person or during an audit or inspection.
Enforce sequence	• There is an enforced workflow for pipette verification.
Block pipette	• A pipette can be blocked if it fails verification or is out of calibration.
Complete data	• All data are stored in the PipetteX database. • If data are deleted, this is recorded in the audit trail and data is marked as deleted but remains in the database and is visible to authorized personnel.
Audit trail functions	• The audit trail can help a second person review by different views that look at: Instrument Analysis Changes.

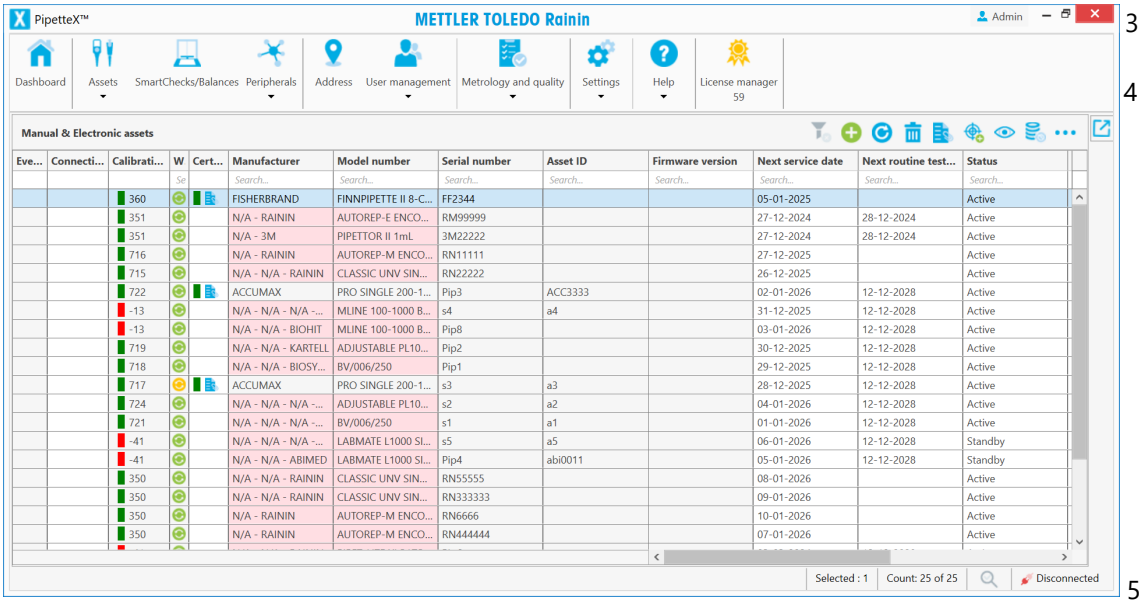
5 Logic Concepts, Data, and Calculations

Before using the software, it is important you understand the layout of the software as well as some of the logic concepts within the software.

5.1 Logic concepts in PipetteX

5.1.1 Screen logic

Before diving in, a quick overview of some of the screen logic so you know where to look for things.



1. Top ribbon:

This is the main menu structure of the software.

Dashboard:
This is where you enter the software and where you can see graphs as well as notifications. All graphs can be moved around, clicked away, or re-added.

Assets:
This is where you manage your pipettes.

SmartChecks/Balances:
This is where you manage both the SmartChecks and your balances.

Peripherals:
This is where you manage your RFID readers, Gateways, and Method Cards.

Address:
This is where you manage your addresses / locations.

User management:
This is where you manage your users, user rights, and user qualification.

Metrology and quality:
Metrology: This is where you manage Methods and Test Plans.
Quality: This is where you can see the Audit trail, and peform Bulk E-sign.

Settings:
System settings: This is where you manage the Settings (with policies), Lab regulation level, Scheduler, and Print configuration.
Lab and quality settings: This is where you manage the Asset group, Lab regulation level, Comments (for policies), and Reasons.

Help:
This is where you find the manual, can reach out for support, and find the About info. Also, you can see what business server you are connected to.

License manager:
This is where you can see how many days you have left on your license key.

2. Events, policies, service icons:

For Assets, Balances, Peripherals, Scheduler, User management, and LabX API configuration, PipetteX has an event notification functionality that will inform you about events that happened to the record. It is a tool to help you quickly filter out critical events for you to act on. Actions performed with events, like deleting, are not audit trailed.

All events can be found under **Dashboard** > **Event viewer**. There are 3 different types of events:

- **Information**
  Something noteworthy has changed to the record. E.g.: you received a new electronic record
- **Warning**
  Something critical has happened. You have to check and respond.
- **Error**
  An error has occurred. You have to respond immediately to remove the error.
  Events deleted are removed from the list. The event icon will not change until a new event is registered.

Policies:

If you have policies turned on, two additional columns can show after the events column:

- **Record release status**
  If a release policy is active, a record can have 3 statuses: not applicable, awaiting release, released.
- **Record e-sign status**
  If an e-sign policy is active, a record can have 3 statuses: not applicable, awaiting e-signature, e-signed

Note

- Release and e-sign status will reappear when switching between tabs, even when it is unselected in the column chooser.

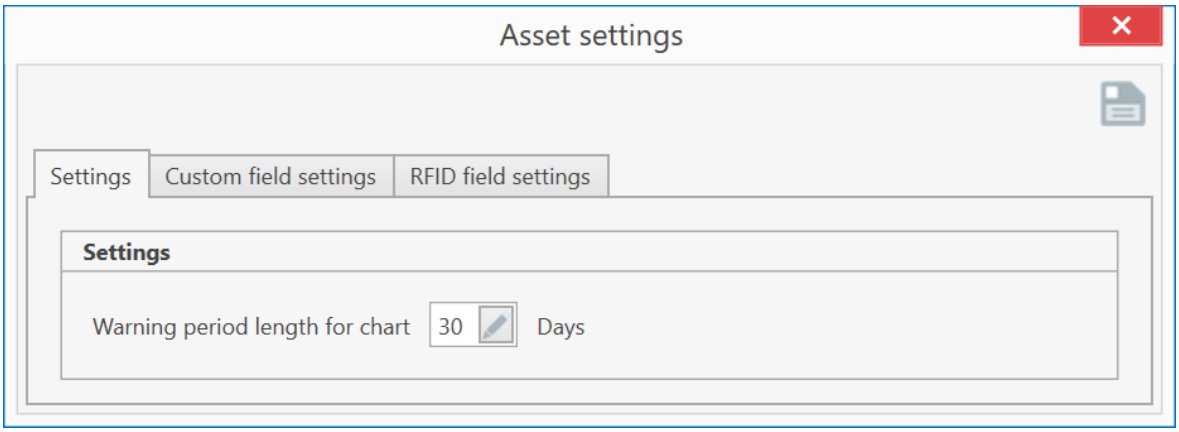
Service icons:
For pipettes, SmartChecks and balances you can view the Calibration and Service status of each record from the first column in the grid:

- Red bar indicates the record is due for Calibration or Service.
- Yellow bar indicates the record will be due for Service or Calibration in the coming days.
- Green bar indicates that the record is healthy.

You can change when the color of the status changes from green to yellow (default is 30 days) which is client specific.

1 Click **Assets** in the ribbon and select the respective asset view (Manual & Electronic, Manual, Electronic).
2 Click ••• and select **Asset settings**.

➡ The dialog box **Asset settings** appears.



3 Under **Settings** tab, modify the days for **Warning period length for chart**.

4 Click **Save**.

- **Number of days left**
  The number next to the color indicates the number of days left until the next Calibration or Service interval. It verifies both the next calibration and next service dates and picks the date that is closest the current date to calculate the number of days left. This logic is identical to the logic of the SmartStand. The **Next routine test** date is not considered in the "Number of days left" information.
- **Write Status (pipettes only)**
  The third column indicates with a blue icon that an RFID enabled pipette has a different RFID structure than is currently in PipetteX and is awaiting an update. Double-click the asset and update the RFID structure once. A yellow refresh icon indicates that you have modified the data of the Pipette and it is waiting to be updated to the Pipette (through either SmartStand or RFID reader). Put the pipette on a SmartStand or hold it over an RFID reader to ensure that the data between PipetteX and the RFID tag is synced. The field changes to once writing is successful or if writing failed.

Note

- Ensuring that the write status of pipettes is always green is very important. For XLS(+) pipettes, you achieve this by docking the pipettes onto the SmartStand or holding them over an EasyScan Flex RFID reader.

NOTICE

Possible overwriting of pipette data

If the RFID information of a pipette has not been synched with PipetteX (status yellow "write pending") and information on the RFID tag is updated by an external application (e.g. during a METTLER TOLEDO Service), the data that is pending for this pipette in PipetteX may be overwritten by new information written to the RFID tag. This new information will then be uploaded next time it is synced and the information previously awaiting PipetteX sync will be lost.

Document icons:

PipetteX will notify you when you receive new documents in the Asset view page. A indicates that a new document is available, and the icon turns back to once you have viewed the document.

The color in front of the document icon indicates that last known status of your pipette:

- **As-found verification passed**
  As-found during service/calibration and/or verification was passed.
- **Routine test failed**
  A routine test failed, and tolerances were not achieved
- **As-found verification failed**
  As-found during service/calibration failed.

The functionality above works for manually and automatically added documents. Read below on how to link documents automatically and manually to your assets.

3. Active user:

Here you can see who is currently logged into the application. Selecting the user will get you to the user management section (if you have the privileges).

4. Action buttons:

On each screen, different action buttons allow you to perform different actions. These action buttons may or may not be visible and/or usable, depending on your user rights.

5. Record specifics screen:

By clicking the icon on the right-hand side of the screen, you can add "record specifics" information in or out. Pinning or unpinning the side screen will either lock the side screen in place or collapse it to the side.

Depending on your setup and the screen, you will find the following three functionalities in the record specifics screen:

- Edit and bulk edit record(s) (if you have multiple records selected at the same time, the pencil will automatically have the bulk edit functionality)
- Release record
- Save record

You can move the record specifics screen around. If you prefer it to sit on the left-hand side of your screen, open the record specifics screen and drag/drop the screen to the left side of your grid. You can move the section areas indicated with a black square whilst dragging the screen. PipetteX will save your location as well as your collapse/expand preference for next time.

6. Additional information:

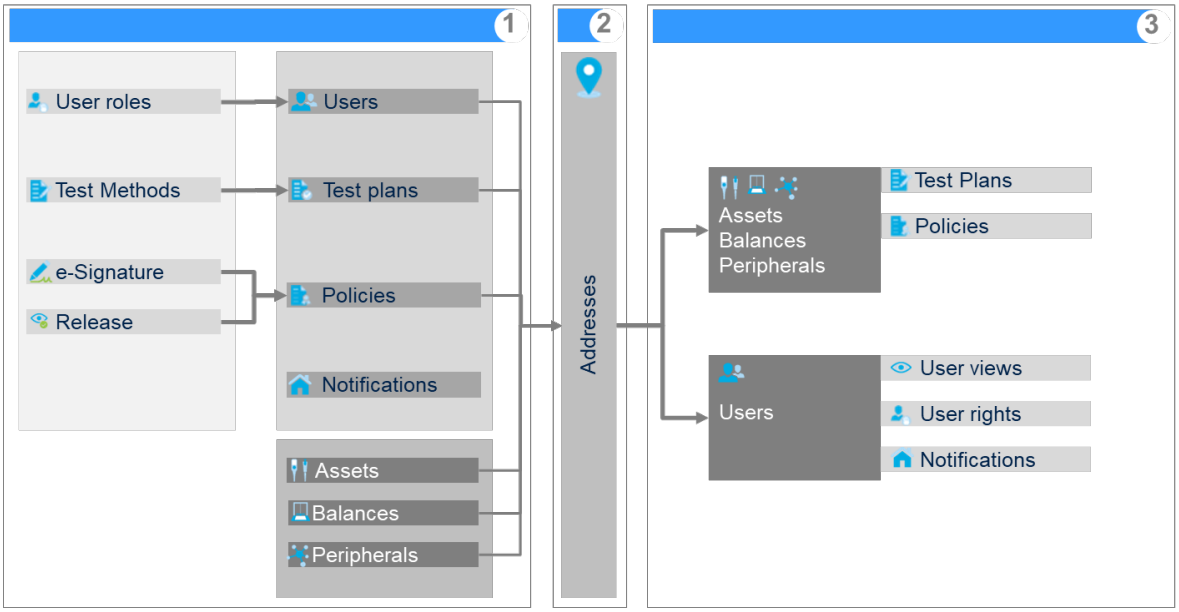
At the bottom of the screen additional information is provided:

- **Back-end connectivity:**
  This icon indicates whether you were able to successfully connect to the Mettler Toledo Web server.
- **Pipette model verification:**
  By clicking this icon you can start the model verification process.
- **Count:**
  The count shows how many records are displayed at once. You will notice this number increases as you scroll down in a long asset list. If you select multiple records, it will also show how many records are selected.

5.1.2 Data linking logic

In PipetteX, most data points and functionalities are linked and become active through the address. The schematic below shows the interconnections. Depending on your needs, you can decide what aspects to set up, but the basic flow would be:

1. **Define**
   This is where you setup all different elements that you want to link or have active in your setup
2. **Link**
   This is where you assign the different components (users, test plans, policies, assets, balances, peripherals) to addresses
3. **Start**
   All the elements are now linked and will start working harmoniously and in an automated way



5.1.3 Automation logic

PipetteX aims to make your workflows more efficient and remove unnecessary work. Several automated built-in logic mechanisms help you do so.

5.1.3.1 Model name cleansing

PipetteX will help you harmonize the model naming of all your pipettes. The verification is done based on Manufacturer and Serial number. This means it is not essential to have all your models correctly named when importing an asset list. For Rainin pipettes, the RFID functionality for XLS(+) pipettes can be used alternatively. They are marked with N/A and the manufacturer field will be red. The model verification process will run in the background (this can be changed under settings with the correct authorization). The verification process can also be triggered manually by clicking on the icon.

Prerequisites:

- an active internet connection to your server (the back-end connectivity icon shows your connection status)
- for non-Rainin pipettes, service has to be done by METTLER TOLEDO for models to update

Model name verification after manual and mass upload

When a model gets added using the manual or mass upload method, a model verification against the METTLER TOLEDO database will happen (regardless of manufacturer). If a record exists, the model name will be compared, and in case of discrepancies overwritten with the model name on the record by METTLER TOLEDO.

The outcome of the model verification can have three different results:

- **Verified**: these models have been successfully verified and updated. A green tick appears before the **Edit** asset details icon. As soon as an already verified pipettes gets changed, it will automatically be put into a re-verification process and corrected again.
- **To be verified**: these models could not be verified successfully. Until they become known to METTLER TOLEDO, these will remain in status "to be verified"
- **Not verifiable**: these models could not be verified and have to be updated manually.

Model name verification via RFID:

- The easiest way to get the correct model name is by registering the pipette into PipetteX via RFID. This only works for Rainin RFID enabled pipettes. The model name will be copied directly from the RFID chip into the PipetteX database.

- If a record with the same Manufacturer and Serial number already exists in the PipetteX database (due to an import via the import functionality), the model name of the existing record in PipetteX will be compared to the RFID chip and in case of discrepancies overwritten with the RFID model name. Furthermore, PipetteX will enrich the existing record with the information available on the RFID chip.

Note

- The data in the asset view will only update after the full verification process has finished. Changes to the manufacturer and model description that are made during the verification process might get overwritten after the verification process has finished.

5.1.3.2 Service / Routine test date updates

PipetteX has some great functionalities built in to keep your service and routine test dates up to date. If a service is done by METTLER TOLEDO and you fulfill the prerequisites listed below, service dates are automatically updated after every service. For Rainin pipettes, there is also the alternative to updating service dates by using the RFID functionality with an RFID reader.

Similarly, procedures using either a SmartCheck or XPE/XSE/XPR balance will have dates automatically updated as per the routine test plan after each successful routine test.

Prerequisites:

- an active internet connection to your server (the back-end connectivity icon shows your connection status).
- For service date updates, service must be done by METTLER TOLEDO for models to update.
- For routine test date updates, the SmartCheck and/or balance needs to be linked to PipetteX.
- Paid license key is active (either a site or unlimited license).

Alternative scenario:

If you have an e-sign policy active, the date will not update until the document (either a calibration certificate or routine test report) with status "Pass" has been signed off.

The table below shows the logic for date updates in the asset view. The logic below only involves automated scenarios (be it for calibration certificates or verification reports). Dates can be manually brought forward from the asset view and pushed to RFID tags.

Date in PipetteX	Date on RFID tag or from service	RFID Write Status prior to docking pipette on SmartStand	PipetteX (manual date update)	PipetteX (automatic date update)
10. May 22	09. Apr 22	Green	Date from PipetteX updates to pipette	Date not automatically updated in Asset view
09. Apr 22	10. May 22	Green	Date from pipette updates to PipetteX	Date automatically updated in Asset view
10. May 22	09. Apr 22	Yellow	Date from PipetteX updates to pipette	Date not automatically updated in Asset view
09. Apr 22	10. May 22	Yellow	Date from pipette updates to PipetteX	Date automatically updated in Asset view

If service is done with METTLER TOLEDO, you need to be aware of the logic below. The cause of the issue is marked red.

Last service date in PipetteX	Last service on file by METTLER TOLEDO	Next service date in PipetteX	Next service date on calibration certificate	Next service date in PipetteX after sync	Action required
10. May 21	10. May 21	10. May 22	10. May 23	10. May 23	
10. May 21	10. May 21	10. May 23	10. Jul 23	10. May 23	You have to manually update the next service date in PipetteX if you want to align it with the calibration certificate

Last service date in PipetteX	Last service on file by METTLER TOLEDO	Next service date in PipetteX	Next service date on calibration certificate	Next service date in PipetteX after sync	Action required
10. May 21	10. May 20	10. May 22	10. May 23	10. May 22	You can run into a verification issue (only during first time of syncing data). You have to match the last service date on file with METTLER TOLEDO to pull the dates automatically.

Calibration certificates

Service provider	Certificate retrieval process	Your setup	What date gets updated and how?
METTLER TOLEDO	Automatic*	XLS(+) pipettes with SmartStand	**Automatically updates after service:** **Asset View:** Last/next service Last/next calibration **Certificate View:** Date work performed **RFID tag (XLS(+) only):** Last/next service Last/next calibration
		Non-RFID pipettes and/or XLS(+) pipettes w/o SmartStand or EasyScan Flex reader	**Automatically updates after service:** **Asset View:** Last/next service Last/next calibration **Certificate View:** Date work performed **RFID tag (XLS(+) only):** Last/next service Last/next calibration

Service provider	Certificate retrieval process	Your setup	What date gets updated and how?
METTLER TOLEDO	Manual	XLS(+) pipettes with SmartStand	**Dates get read from RFID tag upon docking on SmartStand:** **Asset View:** Last/next service Last/next calibration **Certificate View:** You have to manually update the dates when uploading the certificate **RFID tag (XLS(+) only):** Last/next service Last/next calibration
		Non-RFID pipettes and/or XLS(+) pipettes w/o SmartStand or EasyScan Flex reader	**You have to manually update the dates in all views:** **Asset View:** Manual **Certificate View:** Manual **RFID tag (XLS(+) only):** Last/next service Last/next calibration
Others	Manual	Any	**You have to manually update the dates in all views**

* Depending on your e-sign policy settings, the document might be only visible after e-signing the document.
* Verify with your local METTLER TOLEDO organization on the availability.

Pipette routine test (Quickcheck) reports

Verification device type	PipetteX and balance connected?	Your setup	What date gets updated and how?
XPE/XSE/XPR SmartCheck	Connected	XLS(+) pipettes with and w/o SmartStand	**Automatically updates after verification and/or docking on SmartStand:** **Asset View:** Next Quickcheck Date • **SmartCheck/XPR**: through calculation in PipetteX (date of work (of Quikcheck) + frequency as per test plan assigned to pipette)) • **XPE/XSE**: through docking on SmartStand and only in combination with XPE/XSE balance or through calculation in PipetteX (date of work (of Quikcheck) + frequency as per method test plan assigned to pipette)) **Certificate View:** Date work performed **RFID tag:** Next Quickcheck Date • **SmartCheck/XPR**: only after putting the pipette on a connected SmartStand • **XPE/XSE**: either at the balance or after putting the pipette on a connected SmartStand
		Smart Tag enabled pipettes and/or Method card with EasyScan Flex reader	**Automatically updates pipette report after verification (in case of SmartTag) or sends report to non-labelled report section in PipetteX (in case of Method Card):** **Asset View:** Next Quickcheck Date Through calculation in PipetteX (date of work (of Quikcheck) + frequency as per test plan assigned to pipette)). Hold the tag over the EasyScan RFID reader to program new date on the Smart Tag. **Note** Method card does not work with SmartCheck **Certificate View:** Date work performed **SmartTag:** Next QuickCheck Date
		Non-RFID pipettes and/or XLS(+) pipettes w/o EasyScan Flex reader	**Automatically updates after verification:** **Asset View:** Manual **Certificate View (XPE/XSE only):** Date work performed

Verification device type	PipetteX and balance connected?	Your setup	What date gets updated and how?
XPE/XSE SmartCheck	Not connected	XLS(+) pipettes with SmartStand or EasyScan Flex reader	**Automatically updates upon docking on SmartStand:** **Asset View (XPE/XSE only):** Next Quickcheck Date (through docking on SmartStand) **Certificate View:** Manual **RFID tag (XPE/XSE only):** Next Quickcheck Date
		Smart Tag enabled pipettes and/or Method card with EasyScan Flex reader	**XPE/XSE only: updates Next QuickCheck date on SmartTag, no report stored (print is an option):** **Asset View:** For SmartTag hold it over an PipetteX connected EasyScan Flex reader. For Method card, update manually **Certificate View:** Manual **SmartTag:** Next QuickCheck Date
		Non-RFID pipettes and/or XLS(+) pipettes w/o SmartStand or EasyScan Flex reader	**All manual:** **Asset View:** Manual **Certificate View:** Manual **RFID tag (for XLS(+)):** N/A
Others	Not connected	N/A	**All manual**

*Check on availability of the Pipette Verification option.
* Depending on your e-sign policy settings, the document might be only visible after e-signing the document.

For orphan routine test reports (orphan routine reports are test reports that end up in PipetteX as the report coming from the XPE balance cannot be allocated automatically to a pipette in PipetteX), no automated logic applies. Read section [Assigning orphaned document records ▸ Page 112] on how to update dates in orphan routine test reports.

5.1.3.3 Linking of certificates and routine test reports

PipetteX can automate the addition of certificates and routine test reports to your records. You can change the rate at which PipetteX checks for new certificates. To do this,

1 Go to **Settings** > **Settings (with policies)** > **General** tab.
2 Change the default value under **METTLER TOLEDO data sync refresh rate (hrs)** from 12 to the value that you want.
3 Click **Save**.

If the prerequisites as described below are fulfilled, depending on the asset type the below aspects can be automated.

Pipettes

- **Calibration certificates:**
  If the prerequisites as described below are fulfilled, the calibration documents are automatically assigned to the asset record after each service event and can be found on the document page of the record.

- **Routine test report:**
  On the documents page, you can view your routine test reports performed using a SmartCheck or QuickCheck-enabled balance like XSE/XPE/XPR/XSR. To import routine test reports automatically, follow the hardware configuration steps mentioned in the section [Configuring the hardware ▸ Page 55].

SmartChecks

You can see routine test reports from SmartChecks in the document view. Follow the hardware configuration steps mentioned in section [Configuring the hardware ▸ Page 55].

XPE/XSE/XPR/XSR balances

For XPE/XSE balance, you must manually add routine test reports to the document view.

Prerequisites:

Calibration certificates retrieval (pipettes only):

- The paid license key is active (either a site or unlimited license)
- An active internet connection to your server (the back-end connectivity icon shows your connection status)
- Service has to be done by METTLER TOLEDO for models to update
- Ideally, have a few XLS(+) pipettes registered via a SmartStand or RFID reader. If this is not possible, ensure you have the other two criteria below taken care of:
  - Ensure the **Serial number** and **Manufacturer** match exactly to what is on the physical certificate, AND
  - Ensure the last service and calibration date is ± 2 days from what is on the physical certificate.

Routine test reports retrieval (pipettes and SmartChecks):

- The paid license key is active (either a site or unlimited license).
- The SmartCheck and/or balance must be linked to PipetteX when performing the routine test.

5.1.4 Test plan logic

5.1.4.1 Assigning methods and test plans

If you want to routinely test assets in your lab, you have to use the method and test plan functionality. You can define routine test methods for different asset categories (see sections [Methods ▸ Page 95] and [Test Plans ▸ Page 98]). You can then assign multiple methods to test plans which then get assigned to one or multiple locations. Once these test plans get pushed to the locations, PipetteX automatically assigns the methods to the respective assets (based on their asset category) in those locations.

If multiple test methods are present in one test plan, you will have to define the default method that needs to get assigned to the asset in the test plan. On the asset level, a user can change to another method from the test plan, if he has the correct permissions.

User rights

Every step in the method and test plan definition process is controlled via user-right policies. User rights define two aspects:

- Whether a user can perform a step in the process
- What records a user can see (all records on the system, lab records only, individual records only)

Policies

You can switch policies on (see section [Policies ▸ Page 20] for more information on policies) for two functionalities: release of records and e-signing of records.

Policies define three aspects:

- Whether a policy is applicable.
- What addresses the policy is applicable to. This means that you can define on an address level whether a policy is applicable or not.
- What user profile can execute the policy (this will be the same profile for all applicable addresses).

5.1.4.2 Defining your setup

With user rights and policies, you can define different setups. Two common setups are explained in the figure below.

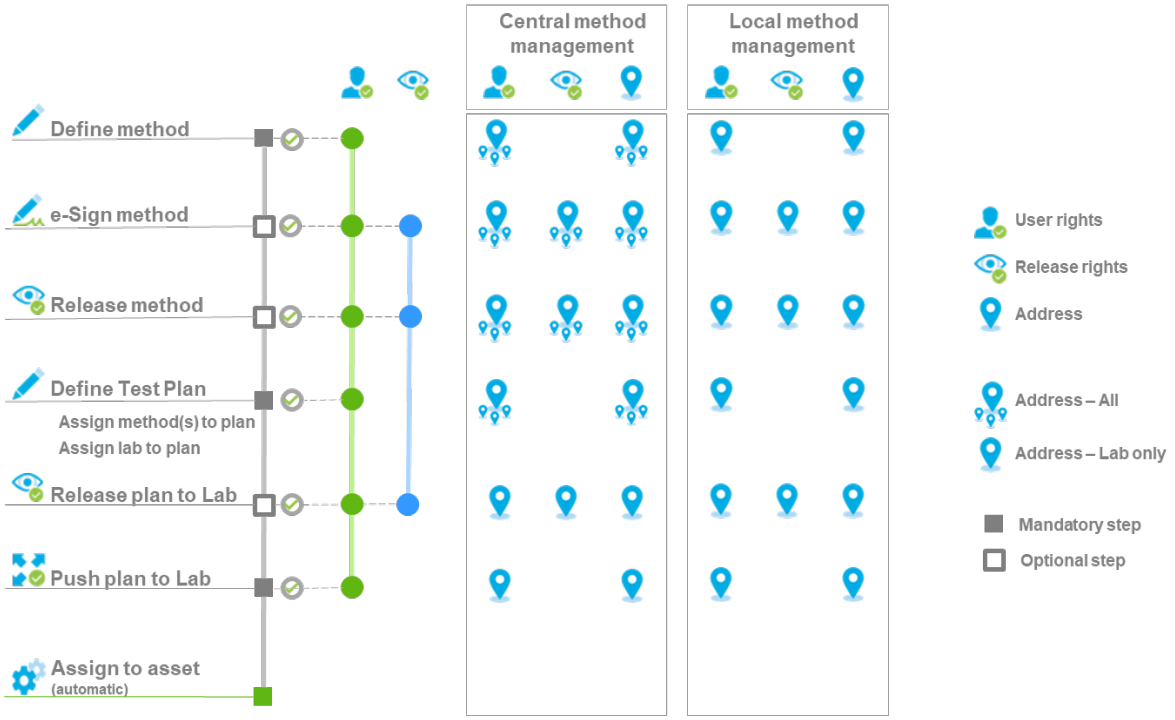
Central method management:

A central group within your organization will define routine test methods. Depending on their oversight in the labs, this group can define methods and test plans, then either enforce them in the labs or leave the enforcement up to the local lab.

Local method management:

The routine test method and test plan definition are left up to the local labs. This means that those with local rights can set up the methods and test plans as well as enforce them in the lab. A central method databank does not exist in this case.

To configure PipetteX, please consult the figure below for the user right and release settings.



5.1.4.3 Updating methods and test plans

Depending on what policies you have active, it is important to understand the update logic of methods, test plans, and assets. If you **do not** have policies active, the status of the step "release method" in the below tables forms the state of your record upon saving.

The green fields show the path of update.

Scenario 1: Create new method and test plan

Assumption on method: No method exists
Assumption on test plan: No test plan exists

	Method	Test plan		Asset	
	Active Method	Active Method	Active Test plan	Active Method	Active Test plan
Current situation	N/A	N/A	N/A	N/A	N/A
Define new method	Method1 v1				
e-Sign method	Method1 v1				
Release method	Method1 v1				
Current situation	N/A	N/A	N/A	N/A	N/A
Define test plan		Method1 v1	TestPlan1 v1		
Release test plan		Method1 v1	TestPlan1 v1		
Push plan to lab				Method1 v1	TestPlan1 v1

Scenario 2: Update an existing method only

Assumption on method: Method exists
Assumption on test plan: N/A

	Method	Test plan		Asset	
	Active Method	Active Method	Active Test plan	Active Method	Active Test plan
Current situation	Method1 v1	Method1 v1	TestPlan1 v1	Method1 v1	TestPlan1 v1
Update method	Method1 v2				
e-Sign method	Method1 v2				
Release method	Method1 v2	Current method removed	TestPlan1 v1	Current method removed	TestPlan1 v1

It is important to understand that after updating a method, the new version does not automatically propagate to all test plans. PipetteX will warn you to update your test plans and does remove the old version of the method from the test plan.

Scenario 3: Update an existing test plan only

Assumption on method: N/A
Assumption on test plan: Test plan exists

	Method	Test plan		Asset	
	Active Method	Active Method	Active Test plan	Active Method	Active Test plan
Current situation	Method1 v1	Method1 v1	TestPlan1 v1	Method1 v1	TestPlan1 v1
Update test plan		Method1 v1	TestPlan1 v2		
Release test plan		Method1 v1	TestPlan1 v2	Current method removed	Current test plan removed
Push plan to lab				Method1 v1	TestPlan1 v2

It is important to understand that after updating a test plan, the new version does not propagate automatically to all addresses affected. PipetteX will warn you to push your new test plans to your addresses and will remove the old version of the test plan from the assets.

Scenario 4: Update an existing method and test plan

Assumption on method: Method exists
Assumption on test plan: Test plan exists

	Method	Test plan		Asset	
	Active Method	Active Method	Active Test plan	Active Method	Active Test plan
Current situation	Method1 v1	Method1 v1	TestPlan1 v1	Method1 v1	TestPlan1 v1
Update method	Method1 v1				
e-Sign method	Method1 v1				
Release method	Method1 v2	Current method removed	TestPlan1 v1	Current method removed	TestPlan1 v1
Current situation	Method1 v2	No method	TestPlan1 v1	No method	TestPlan1 v1
Update test plan		Method1 v2	TestPlan1 v2		
Release test plan		Method1 v2	TestPlan1 v2	No method	Current test plan removed
Push plan to lab				Method1 v2	TestPlan1 v2

It is important to understand that only once the new version of the test plan has been pushed to the addresses, will the new method propagate to the assets.

Staging work:

PipetteX provides staging work, allowing you to set up a newer version of methods and test plans parallel to the active environment. Every release step forms a natural staging opportunity.

Reversing to an older version:

This is not possible in PipetteX directly. A workaround solution is to set up the old version as either a new method/test plan and assign it to the lab. Alternatively, update the latest version of a method/test plan by re-entering the values of the old method/test plan and releasing this version to the lab.

5.2 Calculations in PipetteX

Please find below the pass/fail calculations for the different methods.

Due to a historically grown ISO8655 inconsistency - also often discussed among pipettes manufacturers - Volave got used for the relative Random Error s (%) calculation in some legacy products, whereas Volnom (also called the selected Volume) got used for the relative Systematic Error E (%) calculation. However, for the process tolerance Uncertainty calculation U (%) in it is now recommended to use the relative Random Error s (%) calculation using Volnom (regardless of the selected Volume by the user).

For further information on good practices, refer to the METTLER TOLEDO Good Pipetting Practice (TM) White Paper "Pipette Performance Verification - A risk based approach".

5.2.1 Pipettes: Process Tolerance (XPE/XSE)

The **SmartCheck** calculates the U (%) according to ISO 8655-6 (2002) and ISO TR 20461 (2000), following the below calculation (below an example for a 200ul pipette). PipetteX takes this U (%) and compares is to the tolerance T (%) defined in the method that is assigned to the pipette and declares a fail or pass.

Defined in tolerance method specification:

Process Tolerance (%)	5%
Evaporation trap required [Y/N]	Yes
Number of measurements	4
Expansion factor (k) (fixed) (based on JCGM 100:2008, table G2)	SmartCheck: 3.310 (fraction p 95%) XPE/XSE: 2.0 (fraction p 83%)
Volume 1 (%)	100

Measurements:
1: 201.021 µl
2: 202.039 µl
3: 199.888 µl
4: 200.051 µl

Calculation:
Average vol: (Measurement 1+ Measurement n..) / number of measurements = 200.75 µl

Uncertainty U(µl): E + k*s

Systematic Error E: Volave - Volnom = 200.75 – 200 = 0.74975 µl
Random error s: STDEV.S(Measurement n-1…) = 0.994418884 µl
Expansion Factor k = 3.31 (default for 95% confidence level; according to ISO 8655-6 (2002) and ISO TR 20461 (2000))

Uncertainty U(µl): E + k*s = 0.74975 + 3.310 * 0.994418884 = 4.041276506
Uncertainty U(%): INT((100*U(µl)/Volnom)*10+.05)/10 = 2.0%

PipetteX now compares U(%) to the process Tolerance T(%) of the pipette and shows the result in PipetteX

Fail: U>T
Pass U≤T

Final result: PASS (2.0 < 5.0)

Formulas used by balance:

Random error s(%) calculation: s(%) = 100 * (s / Volnom)

Systematic Error E(%) calculation: E(%) = 100 * (E / Volnom)

Uncertainty U(%) calculations: U(%) = E(%) + k * s(%)

Example Measurements:
1: 201.78 µl
2: 202.81 µl
3: 200.65 µl
4: 200.81 µl

Example calculation:
Average vol: (Measurement 1+ Measurement n..) / number of measurements = 201.51 µl

Systematic Error E(µl): 201.51 - 200 = 1.51
Random error s(µl): 0.998197676
Expansion Factor k = 2
Uncertainty U(µl): 1.51 + 2 * 0.998197676 = 3.996395352

Random error s(%): 100 * (0.998197676 / 201.51) = 0.49

Systematic Error E(%): 100 * (1.51 / 200) = 0.75

Uncertainty U(%): 0.75 + (2 * 0.49) = 1.73

Final result: PASS (1.73 < 5.0)

Note

The Pipette Check Application on the XPE/XSE balances is still using s (%) = 100 * (s / Volave)

5.2.2 Pipettes: Process Tolerance (XPR/XSR)

The **SmartCheck** calculates the U (%) according to ISO 8655-6 (2002) and ISO TR 20461 (2000), following the below calculation (below is an example for a 200ul pipette). PipetteX takes this U (%), compares it to the tolerance T (%) defined in the method that is assigned to the pipette, and declares a fail or pass.

Defined in tolerance method specification:

Process Tolerance (%)	5%
Evaporation trap required [Y/N]	Yes
Number of measurements	4
Expansion factor (k) (fixed) (based on JCGM 100:2008, table G2)	SmartCheck: 3.310 (fraction p 95%) XPE/XSE: 2.0 (fraction p 83%)
Volume 1 (%)	100

Measurements:
1: 201.021 µl
2: 202.039 µl
3: 199.888 µl
4: 200.051 µl

Calculation:
Average vol: (Measurement 1+ Measurement n..) / number of measurements = 200.75 µl

Uncertainty U(µl): E + k*s

Systematic Error E: Volave - Volnom = 200.75 – 200 = 0.74975 µl
Random error s: STDEV.S(Measurement n-1…) = 0.994418884 µl
Expansion Factor k = 3.31 (default for 95% confidence level; according to ISO 8655-6 (2002) and ISO TR 20461 (2000))

Uncertainty U(µl): E + k*s = 0.74975 + 3.310 * 0.994418884 = 4.041276506
Uncertainty U(%): INT((100*U(µl)/Volnom)*10+.05)/10 = 2.0%

PipetteX now compares U(%) to the process Tolerance T(%) of the pipette and shows the result in PipetteX

Fail: U>T
Pass: U≤T

Final result: PASS (2.0 < 5.0)

Formulas used by balance:

Random error s(%) calculation: s(%) = 100 * (s / Volnom)

Systematic Error E(%) calculation: E(%) = 100 * (E / Volnom)

Uncertainty U(%) calculations: U(%) = E(%) + k * s(%)

Note

The Pipette Check Application on the XPE/XSE balances is still using s (%) = 100 * (s / Volave)

5.2.3 Pipettes: ISO 8655 (XPE/XSE)

The Pass/Fail result is taken directly from the QuickCheck report of the XPE/XSE analytical balance. The **Balance** calculates the result according to ISO 8655-6 (2002) and ISO TR 20461 (2000), following the below calculation (below an example for a 200ul pipette):

Defined in ISO 8655 method:

Evaporation trap required [Y/N]	Yes
Number of measurements	10
Volume 1 [%]	100
Volume 2 [%]	
Volume 3 [%]	

If you choose the ISO 8655 method, the values of E (%) and s (%) are taken automatically from ISO 8655 (version 2002-02-15) based on the pipette type and nominal volume of the pipette. If the nominal volume of the assigned pipette is an intermediate nominal volume between those given by ISO 8655, PipetteX will take the permissible error values of the next greater nominal volume.

Taken from ISO 8655-2:2002 table 1 (for a 200ul pipette)

Sys. Error E [%]	0.8
Random Error s [%]	0.3
Volume 1 [%]	100
Volume 2 [%]	
Volume 3 [%]	

Measurements:
1: 201.02 µl
2: 202.04 µl
3: 199.89 µl
4: 200.05 µl
5: 200.01 µl
6: 199.99 µl
7: 201.00 µl
8: 199.00 µl
9: 197.99 µl
10: 202.01 µl

Calculation:
Average vol: (Measurement 1+ Measurement n..) / number of measurements = 200.30 µl
Sys. Error E: Volave - Volnom = 200.30 – 200 = 0.30 µl
Sys. Error E(%): 100*E / Volnom = 100*(0.30 / 200) = 0.15%

Random error s: STDEV(Measurement 1-n…) = 1.26 µl
Random error s(%): 100*s / Volnom = 100*(1.26 / 200) = 0.63%
Expansion Factor k = 2 (default for 95% confidence level; according to ISO 8655-6 (2002) and ISO TR 20461 (2000))
Uncertainty U(%): E(%) + k*s(%) = 0.15% + 2*0.63% = 1.41%
The balance compares U to T of the ISO of the pipette and shows the result on the report.
Fail: U>T
Pass U≤T

The result is copied to the certificate overview.

Note

The Pipette Check Application on the XPE/XSE balances is still using s (%) = 100 * (s / Volave)

5.2.4 PipetteX: ISO 8655 (XPR/XSR)

Formula/Calculation used by PipetteX:
If Evaporation Trap is set as true in method, you will get an additional dialog for the environment factors which would impact in dispensed volume.

Temperature	24.0°C
Air Pressure	1013.0 hPa
Humidity [%]	40.0

Based on the user configured values, PipetteX calculates a correction factor Z (ul/mg), which is mass to volume conversion factor in accordance with ISO 8655-6:2022 Annex A. Here, **Z = 1.0038**.

Measurements:
1: 201.78 µl
2: 202.80 µl
3: 200.64 µl
4: 200.81 µl
5: 200.77 µl
6: 200.74 µl
7: 201.76 µl
8: 199.75 µl
9: 198.74 µl
10: 202.77 µl

Calculation:
Average vol: (Measurement 1+ Measurement n..) / number of measurements = 201.95 µl
Sys. Error E: Volave - Volnom = 201.95 – 200 = 1.95 µl
Sys. Error E(%): 100*E / Volnom = 100*(1.95 / 200) = 0.97%
Random error s: STDEV(Measurement 1-n…) = 1.57 µl
Random error s(%): 100*s / Volnom = 100*(1.57 / 200) = 0.78%
Uncertainty U(%): IE(%)I + 2*s(%) = 0.97% + 2*0.78% = 2.53%

Taken from ISO 8655-2:2002 table 1 (for a 200ul pipette)

Sys. Error E [%]	0.8
Random Error s [%]	0.3

The Pipettex compares the calculated Sys.Error (%) and Random Error (%) with Sys. And Random Error (%) of the ISO of the pipette (as above) and shows the result on the report.

- **Fail**: Calculated Sys.Error (%) and Random Error (%) > Sys.Error (%) and Random Error (%), for pipette as per ISO 8655-2:2002
- **Pass**: Calculated Sys.Error (%) and Random Error (%) < Sys.Error (%) and Random Error (%), for pipette as per ISO 8655-2:2002

5.2.5 SmartCheck: repeatability test

For a SmartCheck you can perform a repeatability test as a routine test.

Defined in tolerance method specification:

Nominal weight (g)	1
Number of measurements	10

Defined in instrument specs:

STD to pass (mg)	≤ 0.15

Measurements:
1: 1.00030002 g
2: 1.00033402 g
3: 1.00033001 g
4: 1.00002202 g
5: 1.00003402 g
6: 1.00002504 g
7: 1.00002340 g
8: 1.00003402 g
9: 1.00002201 g
10: 1.00003402 g

Calculation:
STDEV (Measurement 1-n…) = 0.00014216 g
Fail: STD > 0.00015 g
Pass STD ≤ 0.00015 g

Result:
Pass

5.2.6 Rounding

PipetteX applies the default rounding of the IEEE-754 for all computations. Negative and positive numbers are treated the same way by "Round half to even". This procedure treats positive and negative values symmetrically and is free of sign bias.

Examples

Number	Number rounded
+ 13.5	+ 14
+ 14.5	+ 14
– 13.5	– 14
– 14.5	– 14

All numbers are rounded to +14 or – 14 because it is an even number. All other numbers which are not ending in 0.5 round to nearest digit as usual.

Further examples

Number	Number rounded
+ 13.6	+ 14
– 13.4	– 13
+ 6.6	+ 7
+ 6.4	+ 6

Note

For XPE balances the rounding rules described in the XPE balance reference manual section 14.3 are applied.

5.3 Data in PipetteX

PipetteX has extensive functionality for exporting and importing data. Some of the most important data points can be exported automatically using the scheduler functionality as described in section [Scheduler ▸ Page 123].

Below you will find an overview of the different data points that you can export and import from the application.

5.3.1 Routine test report information

You can download the test report data as described below in its entirety (as a PDF). You can download some of the data fields individually as part of the document view grid to Excel (these records are marked up with ▪ in the tables below). See section [Integrating with other systems (LIMS) ▸ Page 53] to learn about the export possibilities and find out what other fields you can export. The fields that you can download individually are marked separately in the tables below.

5.3.1.1 Pipette: SmartCheck routine test report (PT)

If you routine test a pipette with a SmartCheck, the below data points are captured in the routine test report and stored electronically.

Data field	Source	Report Page	Export as individual field?
System ID of report in PipetteX	PipetteX	1+2	▪
Page number	PipetteX	1+2	
Date/Time (local)	PipetteX (system time)	1	▪
Date/Time (UTC)	PipetteX	1	
Pipette serial number	PipetteX	1	
Pipette model	PipetteX	1	
SmartCheck serial number	SmartCheck	1	
Nominal volume (µl)	PipetteX	1	
Check volume (µl)	SmartCheck	1	▪
Number of measurements	SmartCheck	1	
Individual measurements (µl)	SmartCheck	1	
Average volume (µl)	SmartCheck	1	
k-factor	PipetteX	1	
Uncertainty (%)	SmartCheck	1	▪
Tolerance (%)	SmartCheck	1	
Overall Result	SmartCheck	1	▪
Comment to report	PipetteX	2	▪
User ID for test performer	PipetteX	2	▪
User ID for e-Signature	PipetteX	2	▪
First/Last Name of user for e-Signature	PipetteX	2	▪
Date of e-Signature	PipetteX	2	▪
e-Signature meaning /comment	PipetteX	2	▪
Optional			
Status of report (in case revoked / obsoleted)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	
Commented on	PipetteX	2	

Data field	Source	Report Page	Export as individual field?
Commented by	PipetteX	2	

5.3.1.2 Pipette: XPR/XSR routine test report (PT)

If you routine test a pipette with an XPR/XSR balance, the below data points are captured in the routine test report and stored electronically.

Data field	Source	Report Page	Export as individual field?
System ID of report in PipetteX	PipetteX	1+2	▪
Page number	PipetteX	1+2	
Date/Time (local)	PipetteX (system time)	1	▪
Date/Time (UTC)	PipetteX	1	
Pipette serial number	PipetteX	1	
Pipette model	PipetteX	1	
Balance type	Balance	1	
Weighbridge serial number	Balance	1	
Terminal serial number	Balance	1	
Nominal volume (µl)	PipetteX	1	
Check volume (µl)	PipetteX	1	▪
Number of measurements	PipetteX	1	
Individual measurements (µl)	Balance	1	
Average volume (µl)	PipetteX	1	
Z-factor	PipetteX	1	
Uncertainty (%)	PipetteX	1	▪
Tolerance (%)	PipetteX	1	
Overall Result	PipetteX	1	▪
Comment to report	PipetteX	2	▪
User ID for test performer	PipetteX	2	▪
User ID for e-Signature	PipetteX	2	▪
First/Last Name of user for e-Signature	PipetteX	2	▪
Date of e-Signature	PipetteX	2	▪
e-Signature meaning /comment	PipetteX	2	▪
Optional			
Status of report (in case revoked / obsoleted)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	
Performed on channel	PipetteX	2	
Channel selected by	PipetteX	2	
Commented on	PipetteX	2	
Commented by	PipetteX	2	

5.3.1.3 Pipette: XPE/XSE balance routine test report (ISO)

If you routine test a pipette with an XPE/XSE balance, the below data points are captured in the routine test report and stored electronically.

Data field	Source	Report Page	Export as individual field?*
System ID of report in PipetteX	PipetteX	1+2	▪
Page number	PipetteX	1+2	
Date/Time (local)	PipetteX	1	▪
Date/Time (UTC)	PipetteX	1	
Pipette serial number	Balance	1	
Pipette model	Balance	1	
Balance Type	Balance	1	
Weighbridge serial number	Balance	1	
Terminal serial number	Balance	1	
Nominal volume (µl)	Balance	1	
Number of measurements	Balance	1	
Air temperature (C)	Balance	1	
Air pressure (kPA)	Balance	1	
Water temperature (C)	Balance	1	
Humidity (%)	Balance	1	
Z-factor value	Balance	1	
Check volume (µl)	Balance	1	▪
Error limit %E	Balance	1	
Error limit %s	Balance	1	
Individual measurements (µl)	Balance	1	
Average volume (µl)	Balance	1	
Sys. Error E (µl)	Balance	1	
Sys. Error E (%)	Balance	1	
Random Error s (µl)	Balance	1	
Random Error s (%)	Balance	1	
Uncertainty U (%)	Balance	1	▪
Overall Result	Balance	1	▪
Comment to report	PipetteX	2	▪
User ID for test performer	PipetteX	2	▪
User ID for e-Signature	PipetteX	2	▪
First/Last Name of user for e-Signature	PipetteX	2	▪
Date of e-Signature	PipetteX	2	▪
e-Signature meaning /comment	PipetteX	2	▪
Optional			
Status of report (in case revoked / obsoleted)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	
Commented on	PipetteX	2	

Data field	Source	Report Page	Export as individual field?*
Commented by	PipetteX	2	

*For the XPE/XSE balance, you can only export the data to Excel if you performed a pipette check according to process tolerance (results from tests according to ISO 8655 can only be exported as PDF).

5.3.1.4 Pipette: XPR/XSR balance routine test report (ISO)

If you routine test a pipette with an XPR/XSR balance, the below data points are captured in the routine test report and stored electronically.

Data field	Source	Report Page	Export as individual field?*
System ID of report in PipetteX	PipetteX	1+2**	▪
Page number	PipetteX	1+2**	
Date/Time (local)	PipetteX	1	▪
Date/Time (UTC)	PipetteX	1	
Pipette serial number	PipetteX	1	
Pipette model	PipetteX	1	
Balance Type	Balance	1	
Weighbridge serial number	Balance	1	
Terminal serial number	Balance	1	
Nominal volume (µl)	PipetteX	1	
Number of measurements	PipetteX	1	
Z-factor value	PipetteX	1**	
Check volume (µl)	Balance	1**	▪
Error limit %E	PipetteX	1**	
Error limit %s	PipetteX	1**	
Individual measurements (µl)	Balance	1**	
Average volume (µl)	PipetteX	1**	
Sys. Error E (µl)	PipetteX	1**	
Sys. Error E (%)	PipetteX	1**	
Random Error s (µl)	PipetteX	1**	
Random Error s (%)	PipetteX	1**	
Uncertainty U (%)	PipetteX	1**	▪
Measurement result	PipetteX	1**	▪
Overall result	PipetteX	1**	▪
Comment to report	PipetteX	2**	▪
User ID for test performer	PipetteX	2**	▪
User ID for e-Signature	PipetteX	2**	▪
First/Last Name of user for e-Signature	PipetteX	2**	▪
Date of e-Signature	PipetteX	2**	▪
e-Signature meaning /comment	PipetteX	2**	▪
Optional			
Status of report (in case revoked / obsoleted)	PipetteX	2**	
e-Signature of person revoking	PipetteX	2**	
Date/Time (UTC) of revocation	PipetteX	2**	

Data field	Source	Report Page	Export as individual field?*
Reason for revocation	PipetteX	2**	
Performed on channel	PipetteX	2**	
Channel selected by	PipetteX	2**	
Commented on	PipetteX	2**	
Commented by	PipetteX	2**	

*For the XPR/XSR balance, you can only export the data to Excel if you performed a pipette check according to ISO 8655.

**Report page number varies based on the test volume and number of measurements per test volume.

5.3.1.5 SmartCheck: SmartCheck repeatability test report

If you routine test a SmartCheck, the below data points are captured in the routine test report and stored electronically.

Data field	Source	Report Page	Export as individual field?
System ID of report in PipetteX	PipetteX	1+2	▪
Page number	PipetteX	1+2	
Date/Time (local)	PipetteX (system time)	1	▪
Date/Time (UTC)	PipetteX	1	
SmartCheck serial number	SmartCheck	1	
SmartCheck model number	SmartCheck	1	
Device software version	SmartCheck	1	
Test number	SmartCheck	1	
Check weight (g)	SmartCheck	1	
Number of measurements	SmartCheck	1	
Individual measurements (g)	SmartCheck	1	
Standard Deviation (mg)	SmartCheck	1	
Error limit (mg)	SmartCheck	1	
Overall Result	Balance	1	▪
Comment to report	PipetteX	2	▪
User ID for test performer	PipetteX	2	▪
User ID for e-Signature	PipetteX	2	▪
First/Last Name of user for e-Signature	PipetteX	2	▪
Date of e-Signature	PipetteX	2	▪
e-Signature meaning /comment	PipetteX	2	▪
Optional			
Status of report (in case revoked / obsoleted)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	
Commented on	PipetteX	2	
Commented by	PipetteX	2	

5.3.2 Import, export, and printing of tab data

You can download many data points from PipetteX, either manually or automatically using the scheduler functionality. In the below tables you can see what fields you can import and export per each section of the software.

Note

- It is always recommended to use the **default Import/Export template** provided by PipetteX.

5.3.2.1 Asset tab data

For assets, there are different ways to extract the data from the system:

- **Print a record:**
  You can print a record with or without all the service/routine test reports. On the asset tab, select a record and then select the print option from the menu by clicking the Print icon.
- **Export data manually to Excel:**
  You can export the data from the grid to an Excel spreadsheet, using the export data functionality. On the asset tab, click the "import/export" icon and export to a new file or existing file. If you decide to export to an existing file, you can choose to:
  - Overwrite data: all records will get overwritten with the latest info.
  - Append data: all data will be appended as new data towards the bottom of the old data.
  - Update data in the file: existing records in the file will get updated, new records will get added to the bottom of the existing table.

  Please note that only the data from the view will get exported; this means, if you have a filter applied, only the filtered data will be exported.
- **Export data through the scheduler:**
  By using the scheduler, you can export data to Excel, CSV, and XML. Read section [Scheduler ▸ Page 123] how to do this. Using the scheduler allows you to build data bridges to other data storage solutions you might have (like LIMS or ERP systems) in an automated way. Read section [Integrating with other systems (LIMS) ▸ Page 53] to understand the file format structures.

The table below shows which data can be exported. If you have added Custom RFID columns to the database, this will get appended to the end of the file as new columns. Not all fields are available in all formats as they serve different purposes.

If you want to import data, please review the table below on mandatory fields as well as optional fields. Read section [Add Assets via Import ▸ Page 101] to understand how to import files.

Field name	Export (XLSX: Δ | CSV: ● | XML: ▲)	Import (XLSX: Δ)
Unique search ID	Δ | ●	
System ID	Δ | ● | ▲	
Asset category	Δ | ● | ▲	
Asset type	Δ | ● | ▲	
Manufacturer	Δ | ● | ▲	Δ†
Model number	Δ | ● | ▲	Δ††
Serial number	Δ | ● | ▲	Δ†
Asset ID	Δ | ● | ▲	Δ
Manufacturing date	Δ | ● | ▲	Δ
Nominal volume [µl]	Δ | ● | ▲	
Channels	Δ | ● | ▲	
Volume settings	Δ | ● | ▲	
RFID enabled	Δ | ● | ▲	
RFID UID	Δ | ● | ▲	Δ

Field name	Export (XLSX: Δ | CSV: ● | XML: ▲)	Import (XLSX: Δ)
Last routine test date	Δ | ● | ▲	Δ
Last service date	Δ | ● | ▲	Δ
Next service date	Δ | ● | ▲	Δ
Last calibration date	Δ | ● | ▲	Δ
Next calibration date	Δ | ● | ▲	Δ
Next routine test date	Δ | ● | ▲	Δ
Status	Δ | ● | ▲	Δ
Test plan ID	Δ | ● | ▲	
Routine test method	Δ | ● | ▲	
Process tolerance [T%]	Δ | ● | ▲	
SOP #	Δ | ● | ▲	
Last seen location (reader)	Δ | ● | ▲	
Last seen (time)	Δ | ● | ▲	
Reader location	Δ | ● | ▲	
Usage frequency	Δ | ● | ▲	
Write status	Δ | ● | ▲	
User ID	Δ | ● | ▲	Δ
Address ID	Δ | ● | ▲	Δ
Date placed into service	Δ | ● | ▲	Δ
Age of asset	Δ | ● | ▲	
Lifetime (months)	Δ | ● | ▲	Δ
Lifecycle position [%]	Δ | ● | ▲	
Warranty expiration date	Δ | ● | ▲	Δ
Depreciable item	Δ | ● | ▲	Δ
Purchase value	Δ | ● | ▲	Δ
Salvage value	Δ | ● | ▲	Δ
Certificate System ID	● | ▲	
Date of work	● | ▲	
Certificate file name	● | ▲	
Type of work	● | ▲	
Test method	● | ▲	
As-found result	● | ▲	
As-left result	● | ▲	
Test volume	● | ▲	
Test Uncertainty in %	● | ▲	
Expansion Factor (k)	● | ▲	
Spare parts used	● | ▲	
Interval (days)	● | ▲	
Status	● | ▲	
Upload date/time	● | ▲	
Uploaded by	● | ▲	
Reviewed on	● | ▲	

Field name	Export (XLSX: Δ | CSV: ● | XML: ▲)	Import (XLSX: Δ)
Reviewed by	● | ▲	
Comments	● | ▲	
Commented on	● | ▲	
Commented by	● | ▲	
E-Sign comments	● | ▲	
PM services performed	● | ▲	
Service Plan Name	● | ▲	
Calibration Plan Name	● | ▲	
Alternative Plan Name	● | ▲	

† Mandatory field
†† When service is done with METTLER TOLEDO (all brands) or Rainin pipettes are uploaded, this field will show up as mandatory, however you need not pay much attention to it. The data cleaning logic of PipetteX will correct for the right model after import.

5.3.2.2 Balance tab data

For SmartChecks and balances, the only way to extract the record data from the system is by using the scheduler. See section [Scheduler ▸ Page 123] about how to setup a scheduler. You can export the data to Excel, CSV, or XML.

The below table shows which data can be exported. Not all fields are available in all formats as they serve different purposes.

Field name	Export (XLSX: Δ | CSV: ● | XML: ▲)
Unique search ID	Δ | ●
System ID	Δ | ● | ▲
Asset category	Δ | ● | ▲
Asset type	Δ | ● | ▲
Manufacturer	Δ | ● | ▲
Model number	Δ | ● | ▲
Serial number	Δ | ● | ▲
Asset ID	Δ | ● | ▲
Manufacturing date	Δ | ● | ▲
Firmware version	Δ | ● | ▲
Last service date	Δ | ● | ▲
Last routine test date	Δ | ● | ▲
Next service date	Δ | ● | ▲
Next routine test date	Δ | ● | ▲
Status	Δ | ● | ▲
Test plan	Δ | ● | ▲
Routine Test Method	Δ | ● | ▲
Process tolerance T[%]	Δ | ● | ▲
SOP #	Δ | ●
IP address	Δ | ●
System mode	Δ | ● | ▲
Connected gateway	Δ | ●

Field name	Export (XLSX: Δ | CSV: ● | XML: ▲)
Usage frequency	Δ | ●
User ID	Δ | ●
Address ID	Δ | ●
Date placed into service	Δ | ● | ▲
Age of asset	Δ | ● | ▲
Lifetime (months)	Δ | ● | ▲
Lifecycle position [%]	Δ | ●
Warranty expiration date	Δ | ● | ▲
Depreciable item	Δ | ● | ▲
Purchase value	Δ | ● | ▲
Salvage value	Δ | ● | ▲
Certificate System ID	Δ | ●
Date of work	Δ | ●
File	Δ | ●
Type of work	Δ | ●
As-found result	Δ | ●
As-left result	Δ | ●
Test volume	Δ | ●
Test Uncertainty in %	Δ | ●
Expansion Factor (k)	Δ | ●
Spare parts used	Δ | ●
Interval (days)	Δ | ●
Status	Δ | ●
Upload date/time	Δ | ●
Uploaded by	Δ | ●
Reviewed on	Δ | ●
Reviewed by	Δ | ●
Comments	Δ | ●
Commented on	Δ | ●
Commented by	Δ | ●
E-Sign comments	Δ | ●
PM services performed	Δ | ●
Service Plan Name	Δ | ●
Calibration Plan Name	Δ | ●
Alternative Plan Name	Δ | ●

5.3.2.3 Address tab data

For addresses, you can use both import and export. In section [Addresses ▸ Page 78], you can read how to import and export the data. You can also export the data to Excel. The below table shows which data can be imported and exported.

Field name	Export (XLSX: Δ)	Import (XLSX: Δ)
System ID	Δ	
Address ID	Δ	Δ†
Status	Δ	Δ
Name 1	Δ	Δ
Name 2	Δ	Δ
Street 1	Δ	Δ
Street 2	Δ	Δ
Street 3	Δ	Δ
Building	Δ	Δ
Floor	Δ	Δ
Room	Δ	Δ
Workplace	Δ	Δ
City	Δ	Δ
State	Δ	Δ
Zip code	Δ	Δ
Country	Δ	Δ
Sold-to number	Δ	Δ
Ship-to number	Δ	Δ
Bill-to number	Δ	Δ

† Mandatory field

5.3.2.4 Method tab data

For methods, you can use both import and export. In section [Methods ▸ Page 95], you can read how to import and export the data. You can also export the data to Excel. The below table shows which data can be imported and exported.

Field name	Export (XLSX: Δ)	Import (XLSX: Δ)
System ID	Δ	
Method ID	Δ	Δ†
Method version	Δ	Δ
Asset category	Δ	Δ
Method category	Δ	Δ
Method type	Δ	Δ
Created on	Δ	Δ
Created by	Δ	Δ
Repeat test when failed	Δ	Δ
Block device when failed	Δ	Δ
Process tolerance [T%]	Δ	Δ
Nominal weight (gram)	Δ	Δ
Evaporation trap required [Y/N]	Δ	Δ
Number of measurements	Δ	Δ

Field name	Export (XLSX: Δ)	Import (XLSX: Δ)
Volume 1 [%]	Δ	Δ
Volume 2 [%]	Δ	Δ
Volume 3 [%]	Δ	Δ
Status	Δ	Δ
SOP #	Δ	Δ
Reviewed by	Δ	Δ
Reviewed on	Δ	Δ
Comments	Δ	Δ
Method definition	Δ	Δ

† Mandatory field

5.3.2.5 Users tab data

For users, you can use both import and export. In section [Users ▸ Page 83], you can read how to import and export the data. You can also export the data to Excel. The below table shows which data can be imported and exported.

Field name	Export (XLSX: Δ)	Import (XLSX: Δ)
System ID	Δ	
Ad User	Δ	Δ†
User ID	Δ	Δ†
Status	Δ	Δ†
User role	Δ	Δ†
Password	Δ	Δ†
First name	Δ	Δ
Last name	Δ	Δ
User email	Δ	Δ
User phone	Δ	Δ
AddressID		

† Mandatory field

5.3.2.6 User qualification tab data

For user qualification, you can export the data to Excel. In section [Export Qualification Records ▸ Page 95], you can read how to export the data. The table below shows which data can be exported.

Field name	Export (XLSX: Δ)
System ID	Δ
User	Δ
User role	Δ
User email ID	Δ
Qualification date	Δ
Next qualification date	Δ
Certificate number	Δ
File	Δ
Status	Δ
Trainer	Δ

Field name	Export (XLSX: Δ)
Trainer company	Δ
Trainer role	Δ
Trainer email ID	Δ
Document source	Δ
Result	Δ
Comments	Δ
Approved on	Δ
Approved by	Δ
Approval comments	Δ
Obsoleted on	Δ
Obsoleted by	Δ
Reason	Δ
Reviewed on	Δ
Reviewed by	Δ
Review comments	Δ

5.3.3 Integrating with other systems (LIMS)

PipetteX does not have an API. However, with the scheduler functionality as described in section [Scheduler ▸ Page 123], you can automate the exporting of data from PipetteX to other applications. PipetteX can export data for assets and balances in three formats: xls, csv and xml. Read below to learn how the data is structured so you can automate the read-out of the files.

5.3.3.1 XLSX and CSV files

When you choose to export in either XLSX or CSV file format, PipetteX exports an individual file for both assets and balances each. If the file does not get exported to the specified path, you will have to provide PipetteX access to write to the specific path (ask your IT department). Until write access is granted, PipetteX will save the file in the path: ▸ C:\Program Files (x86)\METTLER TOLEDO\PipetteX\export

The file name nomenclature is as follows:

ExportPipetteData_DD_MM_YYY_hh_mm_ss.csv

ExportSmartCheckData_DD_MM_YYY_hh_mm_ss.csv

Both files start with a unique search ID to automate the read-out of the file. The ID is shown as follows:

[SRN of pipette] – [running number].

For the running number, 0 always indicates the line that contains all the record information, where running number 1 and up indicate each unique record line for a calibration certificate or routine test report.

Certificates are exported into a separate folder, called "certificates" in the above path. The hyperlink mentioned in the export files contains the document ID of the certificate file. The file name of the certificate and or routine test report is randomly created.

5.3.3.2 XML files

When you choose to export in XML file format, PipetteX exports an individual file for each asset and/or SmartCheck. If the file does not get exported to the specified path, you will have to provide PipetteX access to write to the specific path (ask your IT department). Until write access is granted, PipetteX will save the file in the following path:

Path: ▸ C:\Program Files (x86)\METTLER TOLEDO\PipetteX\export

The file name nomenclature is as follows:

ExportPipetteData_[SRN of pipette]_DD_MM_YYY_hh_mm_ss.xml

ExportSmartCheckData_[SRN of SmartCheck]_DD_MM_YYY_hh_mm_ss.xml

Certificates are exported into a separate folder, called "certificates" in the above path. The hyperlink mentioned in the export files contains the document ID of the certificate file. The file name of the certificate and or routine test report is randomly created.

6 Configuring the Hardware

Depending on how you want to use PipetteX, you might have to configure peripheral hardware that connects to the software. Below you will find an overview of all hardware, its functionality in relationship to PipetteX, and how to configure the different hardware.

6.1 SmartStand

This stand or hang-up has 4 RFID readers built in and reads most METTLER TOLEDO RFID enabled pipettes. It can be connected to PipetteX in 2 ways: USB or Bluetooth.

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Read section [Filter, views, column chooser ▸ Page 140] to learn how to use the column chooser.

6.1.1 Add SmartStand

6.1.1.1 Add via USB connection

PipetteX adds the SmartStand automatically to the Reader View upon connecting the stand to the PC that has PipetteX installed on it.

1 Start the PipetteX application.
2 Wait for the application to load and login.
3 Click on the Readers icon in the ribbon.
4 Power the SmartStand Off and On, wait 10 seconds.
5 Connect the USB cable from the SmartStand to the PC.
6 Wait for the drivers to be installed**.
7 Now you will see a message to accept.
8 The SmartStand or reader should be listed in the reader table now.

The same procedure is applicable for both SmartStand and Legacy USB RFID readers.

** If the USB device does not automatically get added, drivers might not have installed correctly. See PipetteX Installation Guide if the drivers do not install automatically when connecting the SmartStand for the first time.

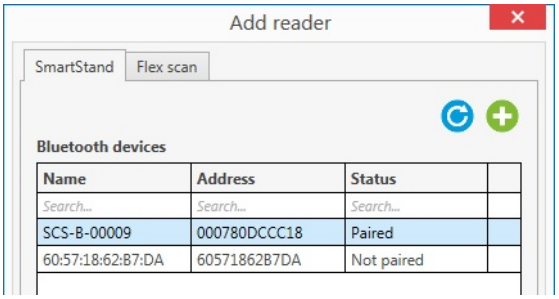
6.1.1.2 Add via Bluetooth connection

PipetteX can communicate wirelessly with SmartStand. Tomum reach, it is strongly recommended to use a Class 1 Bluetooth antenna on the PC side. These USB dongles can be purchased separately in any electric store or may already be built-in into the PC. PipetteX has been tested for handling 10 connected SmartStands simultaneously per PipetteX instance. It could potentially handle more than 10 connected SmartStands to 1 PipetteX instance, but this would be at the customer's own risk. For details on how to connect a SmartStand via Bluetooth, please go to the Installation manual of the SmartStand.

To connect the SmartStand via Bluetooth PipetteX, disconnect the USB cable and factory reset the SmartStand if you are not sure if it was paired somewhere else previously.

1 Start the PipetteX application.
2 Wait for the application to load and login.
3 Click on the Readers icon in the ribbon.
4 Select ⊕ to add a reader.
5 Activate Bluetooth on the SmartStand.
6 Navigate to **SmartStand** tab.
7 Click on ↻ to see all the visible Bluetooth devices.

8 Select the correct device to pair and click .



9 Follow the instructions on the screens (SmartStand, PipetteX) to confirm pairing request.

Note

- For SmartStand device software versions >1.0.0.10 the pairing confirmation step on the SmartStand can be skipped. The pairing request from PipetteX still needs to happen though.
- You can only pair each device once. If you wish to repair a device, please delete the connection first by selecting from the Readers page, reset the SmartStand to factory reset, and ensure that the SmartStand is removed from the Windows Bluetooth device list. Then attempt to pair again. Notice that the SmartStand will now show as an unpaired device in the list.
- While connecting/pairing for the first time, please wait until all the drivers are installed and ready for pairing.
- You can use the MT-prescribed Bluetooth dongle to connect to the SmartStand (see PipetteX Installation Guide).

6.1.2 Release SmartStand

Depending on whether you have release policies active, you will have to release the SmartStand before you can start using it. To do so:

1 Select the SmartStand(s) to be released and double click (in case of only 1 SmartStand) or go to the specifics view to click the bulk edit functionality

2 Assign an address to the SmartStand(s) and click **Save**

3 If a release policy applies to the assigned SmartStand, click on the icon

4 Add a comment (you can use standardized comments. See section [Comments ▸ Page 124] how to define standard comments and how to assign comments to policies)

5 Sign-in with your PipetteX credentials (provided you have release rights for SmartStand as per release policy)

6 Release the Smartstand

6.1.3 Configure SmartStand

For initial setup it is recommended to connect the SmartStand to PipetteX via USB. PipetteX automatically adds the reader in the reader view and the light turns green. Please follow the following steps after double clicking on the reader:

- **Time and Date Sync**
  Sync the date and time of the reader with your PC system by clicking .
- **Asset ID**
  You can assign an Asset ID to the SmartStand by filling out the Asset ID field. The Asset ID will be shown on the home screen of the SmartStand and will also change the Bluetooth ID for that particular SmartStand.
- **Date/Time Settings**
  You can modify the date/time settings for the particular SmartStand from PipetteX if needed.
- **Display Settings**
  You can modify the display brightness, calibration alarm settings and the length of the period that the secondary screen (dwell screen) with the service dates should appear on the SmartStand after a pipette has been picked up or replaced to the stand. The calibration alarm settings determine how far ahead of either

the next service date or next calibration date the SmartStand should warn the researcher that a service event is coming up (default alarm is 30 days). You can centrally lock the end-user out of modifying any setting on the SmartStand itself via the "Local modification lockout".

- **Wireless connectivity settings**
  These settings influence the response time of the Bluetooth module on the SmartStand and should only be changed if necessary.
- **RFID read-out stability period**
  This determines how long the SmartStand will wait before it will read/write the RFID tag. If set too high the SmartStand might miss certain pick-up and drop-off events as it is waiting for the pipette to sit in the slot idle. If set too low, the SmartStand might get too sensitive to pick-up and drop-off events.
- **Wireless connectivity frequency (seconds)**
  This determines how long the SmartStand will wait before connecting to PipetteX via Bluetooth. During an active Bluetooth connection (which only lasts for seconds) the RFID readers are shut off and no pipette movement on the SmartStand is detected. Hence, if this value is set too low, the SmartStand potentially misses too many pick-up and drop-off events on the stand (influencing the tracing functionality of PipetteX via the count-log). Whilst lowering this value might seem tempting (to speed up pairing time), one has to consider whether a highly responsive Bluetooth connection is needed or whether a small delay in connectivity is acceptable. For the initial setup (pairing), a low value of 10 seconds is recommended (to speed up the pairing process). For day-to-day operation, a low value of at least 60 seconds is recommended.
- **Address details**
  The address of where the stand is located can be added here. This is helpful if you want to trace down pipettes afterward and need to determine where the pipette was last seen.

6.1.4 Update Firmware version

PipetteX can check for the latest device software for SmartStand. To do so, the PC on which PipetteX is installed needs an active internet connection. If a newer Firmware version is available, PipetteX will mark the column **Firmware version** red, indicating that SmartStand does not have the latest Firmware installed. You can only update the SmartStand software when the SmartStand is connected through USB. To add the column that shows the **Firmware version**, right-click any column header and choose Column Chooser. In the column chooser, select **Firmware version**. By clicking on the hyperlink in the column **Firmware version**, you can update the stand to the latest version. Alternatively, you can use the scheduler functionality to remotely trigger device software updates. Read section [Add scheduler: device software update ▸ Page 124].

NOTICE

Never disconnect a SmartStand during the Firmware update process.

Disconnecting the USB connection during a Firmware update will cause the SmartStand to become inoperable. Only METTLER TOLEDO service can recover the SmartStand in this case.

6.1.5 Delete SmartStand

To stop PipetteX from communicating with the connected/configured reader, please click 🗑. Once removed, PipetteX shall not communicate again with the instrument until you unplug and then reconnect the instrument. PipetteX will then try to detect the instrument again and ask you if you need to connect to it. You can add the instrument again by accepting it.

For Bluetooth connected devices also ensure that the device has been removed from the Windows Bluetooth device list.

Note

- The database record of the SmartStand will not be removed from the database. The record will only be deleted from the view. This means that if the same SmartStand gets re-added to PipetteX, PipetteX will continue with writing events to the old database record.

6.2 RFID Reader

PipetteX supports 3 other RFID readers beside SmartStand:

1. Legacy Rainin USB RFID reader
2. Legacy EasyScanFlex RS-232 reader
3. EasyScan USB reader

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Read section [Filter, views, column chooser ▸ Page 140] to learn how to use the column chooser.

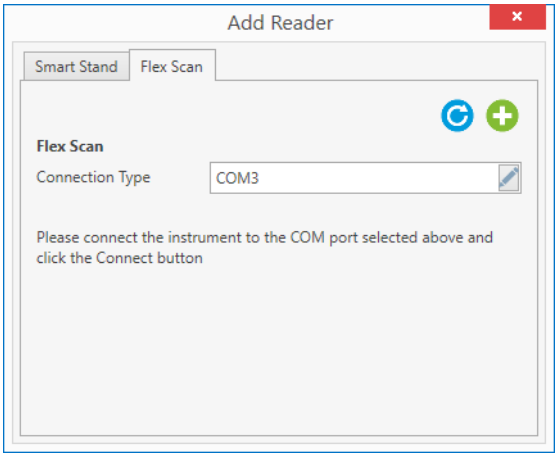
6.2.1 Add RFID Reader

6.2.1.1 Add via USB connection

Adding the USB readers (both legacy Rainin as well as the EasyScan USB reader) follows the same logic as adding the SmartStand via USB, see section [Add via USB connection ▸ Page 55].

6.2.1.2 Add via Serial connection

1 Start the PipetteX application.
2 Wait for the application to load and login.
3 Click on the Readers icon in the ribbon.
4 Select ⊕ to add a reader.
5 Navigate to "FlexScan" tab.
6 Click ⟳ to list all the available COM ports.
7 Select the appropriate COM port through which the Easy FlexScan reader is installed.



8 Power the Easy FlexScan off and then on, wait 10 seconds.
9 Select ⊕ to add the reader.
10 The reader should be listed in the reader table now.

Note

- Make sure to select the correct COM port. Selecting a port which is connected to some other devices may cause undesirable results.
- If you are using a serial-USB cable, after you have installed its driver and have the cable connected to you PC, you will see in the Windows Device Manager on which COM port it is available.

6.2.2 Release RFID Reader

Only the EasyScan Flex USB reader can be released using PipetteX. Both the legacy Rainin USB reader and the EasyScan Flex RS-232 reader can't be released using PipetteX (as both devices lack a serial number).

6.2.3 Use RFID Reader

The EasyScan USB reader can be used as a standalone reader as well as a gateway-connected reader. Please note, that when the EasyScan USB reader is connected via a gateway (be it virtual or Silex), the functionality of the reader gets reduced to only reading RFID tags (both Rainin tags and SmartTags). If you would like to also write to an RFID tag using the EasyScan USB reader, remove the gateway connection for the reader. Once the gateway connection is removed, you can use the reader for both reading and writing RFID tags.

6.2.4 Update Device Software

Only the device software of the EasyScan Flex USB reader can be updated using PipetteX. It follows the same logic as section [Updating the device software of the SmartStand ▸ Page 57].

6.2.5 Delete RFID Reader

Deleting the RFID readers (both legacy Rainin as well as the EasyScan reader) follows the same logic as section [Deleting the SmartStand ▸ Page 57].

6.3 SmartCheck

SmartCheck is an easy-to-use pipette verification instrument. By default, it will measure to 5% tolerance. Hooking it up to PipetteX allows you to do several things.

Connected via USB (standalone case):
You can connect a SmartCheck to perform any of the below two actions. Afterwards, you place the SmartCheck back on the bench without connecting to PipetteX.

- Update the tolerance of the SmartCheck (change it to any value between 3-10%).
- Update the device software of the SmartCheck.

Connected via USB (connected case):
You can connect a SmartCheck to a PC that has PipetteX on it and leave it connected via USB. In addition to the afore mentioned cases, you can:

- Start the Pipette Verification from PipetteX and measure against Pipette-specific tolerances. The verification report will be automatically assigned to the document history of the pipette (only for the paid license).
- Together with an EasyScan Flex USB reader, you can turn any PC into an automated pipette verification station. Hold an RFID-enabled pipette over the reader, have the SmartCheck set itself to the correct tolerance for the pipette, check the pipette and have the report automatically captured in the Software (without having to touch the software).

Connected via a USB-LAN gateway (autonomous case):
Automate your pipette verification process without the need for a PC at the bench. Hook up a SmartCheck and an EasyScan LAN reader to your network and verify any pipette without the need for touching the PipetteX software.

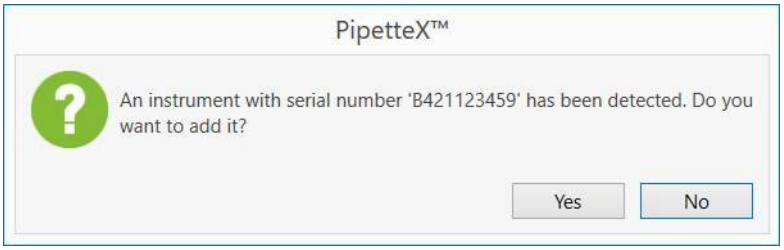
Click on the balance icon in the top ribbon. The overview grid shows key information. Note that there are more data points available through the column chooser functionality. Read section [Filter, views, column chooser ▸ Page 140] to learn about how to use the column chooser.

6.3.1 Add SmartCheck

To add a SmartCheck to PipetteX,

1 Start the PipetteX application.
2 Wait for the application to load and log in.
3 Click the **Balances** icon on the ribbon.
4 Connect the USB cable from the SmartCheck to the PC. Wait for the drivers to be installed** and the SmartCheck to start up.

➡ The following message is displayed.



➡ The SmartCheck or reader should be listed in the reader table now.

** If the USB device is not automatically added, drivers might not have been installed correctly. See the PipetteX Installation Instructions if the drivers are not installed automatically when you connect the SmartCheck for the first time.

Note

- If release policies are active, the connectivity icon is blue after you add the SmartCheck to PipetteX. The connection works. However, it is inactive until you release the SmartCheck. After you release it, the connectivity icon turns green.
- By connecting the SmartCheck to PipetteX via USB, the SmartCheck automatically switches from a standalone device to a connected device (the SmartCheck indicates this by a heartbeat-like flashing of lights). If you intend to use the SmartCheck without PipetteX connectivity in the lab, switch it back to standalone mode by selecting the SmartCheck and clicking the icon in the records specifics window before disconnecting the USB cable.

6.3.2 Release SmartCheck

Depending on whether the release policies are active, you must release the SmartCheck before you can use or edit it. To do so:

1 Select the SmartCheck(s) to be released and double click (in case of only 1 SmartCheck), or go to the specifics view to click the bulk edit functionality in case of multiple SmartChecks.
2 Assign an address to the SmartCheck and click **Save**.
3 The icon becomes active if a release policy applies to the assigned address.
4 Click on the icon
5 Add a comment (you can use standardized comments. See the section [Comments ▸ Page 124] to learn how to define standard comments, and see the section [Policies ▸ Page 20] to learn how to assign comments to policies.
6 Sign in with your PipetteX credentials (provided you have release rights for SmartCheck as per the release policy).
7 Release the SmartCheck

6.3.3 Configure SmartCheck

You can configure SmartCheck in several ways. Double-click the SmartCheck record or use the bulk edit functionality.

Asset Data

- **Add Asset ID**: you can assign an Asset ID (your internal reference number) to a SmartCheck
- **Status**: you can change the status of the device (Active, Standby, Blocked, Out for service, Training, Reserved, Lost, and Retired)
- **All other fields**: these are automatically populated

Service Data

- **Service Dates**: you can edit the four dates below. The date formatting happens automatically as per your Windows System settings
  - Last Service date

  - Last Routine test date
  - Next Service date
  - Next Routine test date
- **Testplan**: The test plan for the SmartCheck is assigned automatically through the address to which SmartCheck is assigned. See section [Test Plans ▸ Page 98] for more information on test plans.
- **Routine test method**: The routine test method is assigned automatically to a SmartCheck through the test plan assigned to the address the SmartCheck belongs to. You can only change the routine method of the SmartCheck by updating the method in the test plan. See section [Methods ▸ Page 95] for further information.
- **Process Tolerance T(%)**: This is the tolerance that the SmartCheck verifies the pipette against if the SmartCheck is used in stand-alone mode. T(%) is set through the routine test method for pipettes assigned to the address. See section [Test Plan Logic ▸ Page 34] for more information on test plans for pipettes.
- **SOP #**: This value pulls automatically from the test plan.

Address data

- **Address data**: you can set up addresses under the Address Tab (see section [Addresses ▸ Page 78]). Once you have done so, you can assign this address to SmartCheck. Assigning an address is vital to be able to assign methods, release assets (if applicable) and manage the view of SmartChecks for users (see section [Calculations ▸ Page 36] to understand the logic in PipetteX)

User data

- **User data**: you can assign individual users to SmartCheck. The user must first set up under the user management (see section [Users ▸ Page 83]). Assigning a user to a SmartCheck helps you make someone responsible for service and routine device testing. This person can be reminded of an upcoming service or routine test via email notifications. Secondly, assigning a user influences what specific users can or cannot see (refer section [Set User specific Asset Views ▸ Page 142]).
- **Financial data**:
  - **Date placed into service**
  - **Lifetime (month)**: This will automatically calculate the lifecycle position based on the asset's lifetime and today's date.
  - **Warranty expiry date**
  - **Depreciable item**
  - **Purchase value**
  - **Salvage value**
- **Switching the mode of SmartCheck**:
  SmartCheck can be used in three different modes:
  - **Standalone (disconnected from PipetteX)**:
    You routine test your pipettes against the
  - **Connected (via USB or virtual gateway)**
  - **Autonomous mode (via EasyScan LAN)**

Suppose you connect a SmartCheck to PipetteX via USB. In that case, you have automatically switched the SmartCheck from a standalone device to a connected device (the SmartCheck indicates this by a heartbeat-like flashing of lights). If you intend to use the SmartCheck without PipetteX connectivity in the lab, switch it back to the standalone mode by selecting the SmartCheck and clicking in the records-specific window before disconnecting the USB cable.

If you have the SmartCheck connected via (virtual) gateway and want to deploy it as a standalone device in your lab, you must remove the gateway for the SmartCheck in the gateway view.

6.3.4 Routine Test SmartCheck

You can perform routine tests (repeatability tests) for a SmartCheck. Your procedure and what data PipetteX can capture will differ depending on your chosen setup.

When the routine test is timed out, SmartCheck will cancel the test, and no records will be stored in PipetteX. However, the routine test certificate is provided to you with **As-found** and overall status as Aborted. The message **Routine test has been stopped or aborted!** is printed at the end of the first page.

The following are the routine test statuses:

- Passed
- Failed
- Aborted

Note

- SmartCheck is not blocked when the routine test is aborted.
- You cannot add the certificate manually with Aborted status.
- The routine test status is Aborted in the following cases:
  - If you start the test and do not initiate the measurement within 60 seconds.
  - After you complete one measurement, if there is a gap of 15 seconds between the following measurements.

6.3.4.1 Routine test: standalone case

Performing a routine test starts with the SmartCheck and does not require an active connection to PipetteX. Read the manual of SmartCheck for how to perform the repeatability test.

Note

- Any results from tests performed between the last record on file with PipetteX and the last routine test performed on the SmartCheck, will not be captured and will be lost.

6.3.4.2 Routine test: connected case

Performing a routine test requires an active conncection to PipetteX.

Prerequisites:

- Starting a routine test requires that you have a test method and test plan assigned to SmartCheck. Read the section [Methods ▸ Page 95] on how to assign methods and test plans.
- Ensure that the SmartCheck is connected to the PC, the connection is active, and the SmartCheck is in connected mode.

Workflow:

1 Select the SmartCheck record and click on the document view icon 
2 If you have the correct user permissions, you can now click on  icon
3 Prepare your SmartCheck for a routine test. Please read the manual of SmartCheck how to perform the repeatability test
4 Follow the steps in the wizard and perform the test.

➡ The result will automatically be recorded in PipetteX

6.3.4.3 Routine test: autonomous case

Performing a routine test requires an RFID reader that is connected to the same gateway as the SmartCheck.

Prerequisites:

- Starting a routine test requires you to have a test method and test plan assigned to SmartCheck. Read the section [Methods ▸ Page 95] on how to assign methods and test plans.
- Ensure that the SmartCheck is connected to the Silex gateway, the connection for both the SmartCheck and EasyScan RFID reader is active, and the SmartCheck is in autonomous mode.
- Ensure you have a Method Card with a SmartCheck repeatability test assigned to it. Read the section [Method cards ▸ Page 113] how to do this.

Workflow:

1 Hold the Method Card over the EasyScan RFID reader. Note that the SmartCheck will go into routine test mode.

2 Prepare your SmartCheck for a routine test. Please read the manual of SmartCheck how to perform the repeatability test

3 Perform the test.

➡ The result will automatically be recorded in PipetteX
The SmartCheck will return to its previous state (before the routine test).

6.3.5 Update Device Software

PipetteX can check for the latest device software for the SmartCheck. To do so, the PC on which PipetteX is installed needs an active internet connection. If a newer device software is available, PipetteX will mark the column **Firmware version** red, indicating the SmartCheck does not have the latest software installed.

To add the **Firmware version** column, right-click any column header and choose **Column chooser**. In the column chooser, select **Firmware version**. By clicking on the hyperlink in the column **Firmware version**, you can update the stand to the latest version. Alternatively, you can use the scheduler functionality to remotely trigger device software updates. Read the section [Scheduler ▸ Page 123].

You can only update the SmartCheck software when the SmartCheck is connected through USB (the device software of a gateway-connected SmartCheck cannot be updated).

NOTICE

Never disconnect a SmartCheck during the device software update process.

Disconnecting the USB connection during a device software update will cause the SmartCheck to become inoperable. Only METTLER TOLEDO service will be able to recover the SmartCheck in this case.

6.3.6 Delete SmartCheck

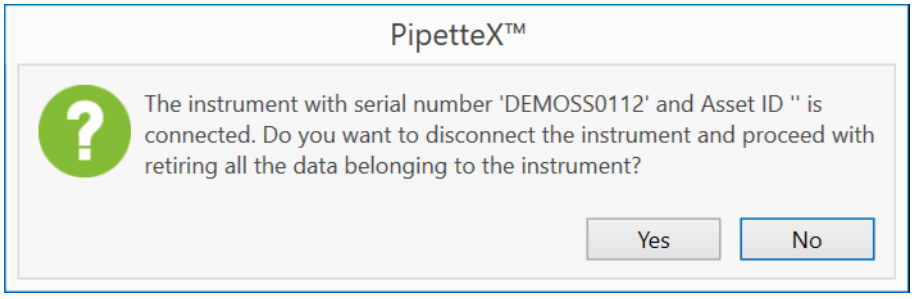
You can remove a SmartCheck from PipetteX. To retire or delete a SmartCheck, follow the steps below:

1 Select **SmartChecks/Balances** in the menu bar.

2 Select the SmartCheck(s) you want to delete.

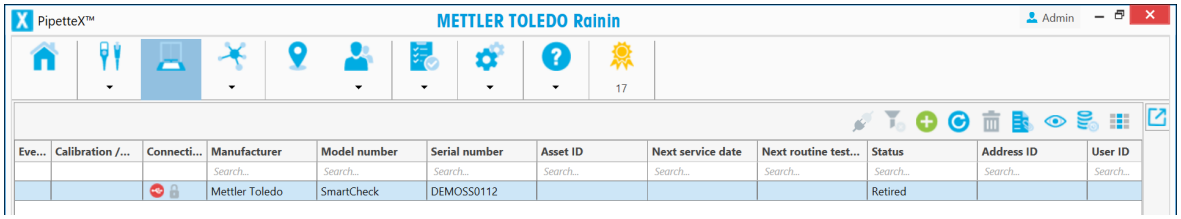
3 Click **Retire Balance / SmartCheck**.

➡ The following dialog box appears:



4 Click **Yes**.

➡ The SmartCheck is removed from PipetteX.



Note

The record and data will remain in the Database (DB).

6.3.7 Reconnect SmartCheck

When you reconnect the deleted SmartCheck to the same instance of PipetteX, the old record is reactivated. The data from the same SmartCheck is added to the old record.

Note

If a release policy exists for the SmartCheck, release the device again before you use it.

6.4 Gateway

PipetteX differentiates between two types of gateways: the virtual gateway and the physical gateway called Silex.

Virtual gateway:
The virtual gateway physically does not exist but virtually connects a USB-connected SmartCheck with a USB-connected EasyScan Flex RFID reader to enable you to automate the pipette verification process

Silex gateway:
This is a physical USB-to-LAN connector where both the SmartCheck and EasyScan USB RFID reader can be connected and made visible in your network using an IP address. The gateway, in conjunction with PipetteX, can only be used for connecting a SmartCheck and EasyScan Flex RFID reader. No other devices, like SmartStand, can be connected via the gateway. More information on DS-510 and DS-700 gateways can be found on

▸ https://www.silextechnology.com

The overview grid shows key information. Note that there are more data points available through the column chooser functionality. Read the section [Filter, search, column chooser ▸ Page 140] to learn how to use the column chooser.

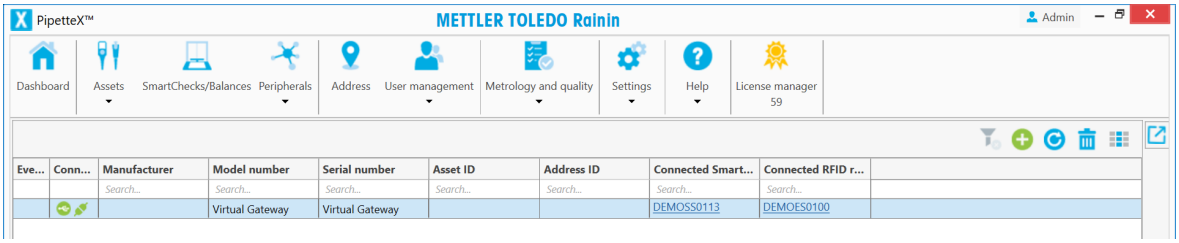
6.4.1 Add Gateway

6.4.1.1 Virtual Gateway

Manually pairing a SmartCheck with an EasyScan USB RFID reader can be done quickly, assuming both devices are released (if applicable, according to your release policy settings).

1 Select **Peripherals** > **Gateways**.
2 Click the **Add gateway** icon.
3 Go to the **Manual pairing** tab.
4 Select the Smartcheck and EasyScan USB RFID reader you want to pair.
5 Click **Save** and close the window (unless you wish to pair more devices manually).

➡ The virtual gateway will be added to the grid with two green icons.



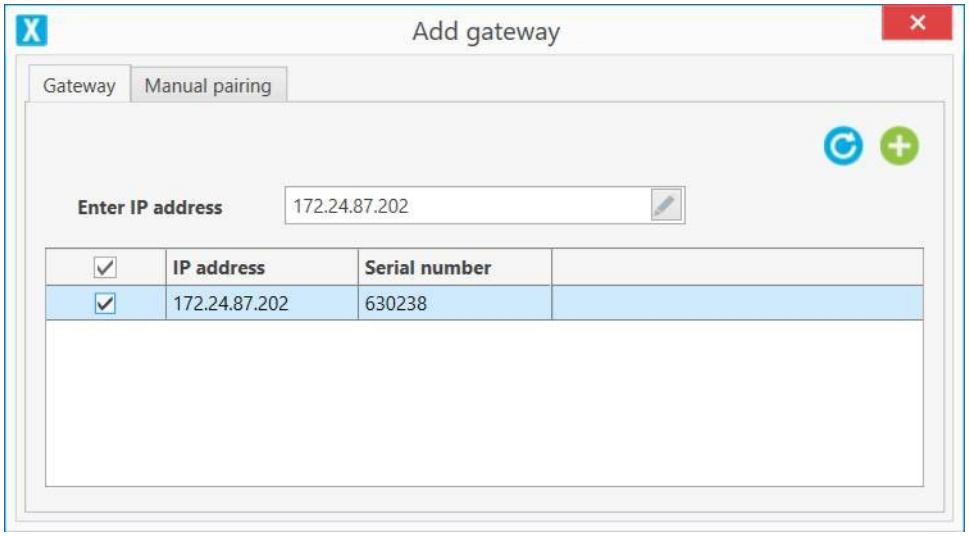
- **USB connection icon**
  - The virtual gateway is working properly
  - The virtual gateway is no longer working. Check both devices (it could be that one of the devices has been removed from PipetteX)
- **Connection icon**

– Both devices are connected and working properly
– One or both devices are suffering from a connectivity issue. Please verify the connection

6.4.1.2 Silex Gateway

To connect a Silex Gateway, follow the steps below:

1 Power the Silex Gateway by plugging in the power cord
2 Connect your LAN cable to the Silex Gateway
3 Connect both the SmartCheck and EasyScan USB RFID reader to the Silex Gateway
4 Go to the **Gateway** tab (click the peripherals menu and select **Gateways**)
5 Click the icon
6 You have 2 options:
• Click the refresh icon. This will trigger an IP-network scan and detect Silex Gateways that are within the same subnet as the PC is in. The S/N of your gateway shown on the screen can be found at the bottom of your gateway.
Note
Read the configuration chapter if no gateway shows.
• Enter the broadcast IP address of your network (in which the Silex Gateway is hosted) or the static IP address of the gateway into the IP address field. For this broadcast IP address, you will have to retrieve this from your IT department or whoever manages your network. Read below under Configure Gateway to find out about the IP address of your gateway.
7 Select the gateway (the serial number displayed in PipetteX corresponds to the serial number that is on the label at the back of your Silex Gateway) and click the icon.



Note
SmartCheck and EasyScan USB RFID reader will be automatically added to PipetteX. They will however not get auto-released (if applicable per release policies).

6.4.2 Configure Gateway

You can assign both types of the following gateways:

- **Add Asset ID:**
  you can assign an Asset ID (your internal reference number) to a SmartCheck
- **Address data:**
  you can assign the gateways an address.
- **User data:**
  you can assign individual users to the SmartCheck. The user will first have to be set up under user management (see section [Users ▸ Page 83]).

For the Silex gateway, you can configure more settings. However, most of this is done through the SX virtual link utility from Silex.

6.4.2.1 Silex gateway: SX Virtual Link Utility

With PipetteX, the SX Virtual Link Light utility from Silex installs automatically. This utility allows the connection between the PipetteX application, the gateway, and the connected devices. For PipetteX implementation, you do not need any configuration as this is done automatically.

If you intend to configure the gateway, however, you will need the SX Virtual Link utility for the DS 510 or DS 700 gateway, provided by Silex directly on their website. Please find this utility and the manual on their website and search for DS 510 or DS 700.

▸ https://www.silextechnology.com

6.4.2.2 Silex gateway: Where to install the utility component

The SX Virtual Light utility can be installed in different parts of your system setup: it can be hosted within your server network or on a separate client. Please refer to the PipetteX installation guide for the considerations of your application setup.

Note

For the SmartCheck to work in combination with the Silex Gateway, the SX Virtual Light Utility needs to be accessible by the PipetteX business server at any time. So, make sure that the hardware on which you install the SX Virtual Light utility is always powered on and can always be accessed by the business server.

6.4.2.3 Silex gateway: Subnets

Large IT networks might get partitioned by IT into so-called subnets (due to security reasons and/or load handling of the network). This partitioning reflects in the IP address: every section between the "." can be a separate subnet (a number between 1-255).

IMPORTANT:
The Silex gateway and the hardware on which you install the SX Virtual Light utility need to sit within the same subnet. Silex does not support cross-subnet IP detections. If you need to go cross-subnet, your only choice is to apply a static-IP address to the gateway.

To do so, you will need the SX Virtual Link utility downloaded and installed on your PC (see SX Virtual Link Utility section for download possibilities). Contact your IT department to do this task for you.

DISCLAIMER:
The steps below are recommended only to people with sufficient IT/network knowledge.

To set a static IP address:

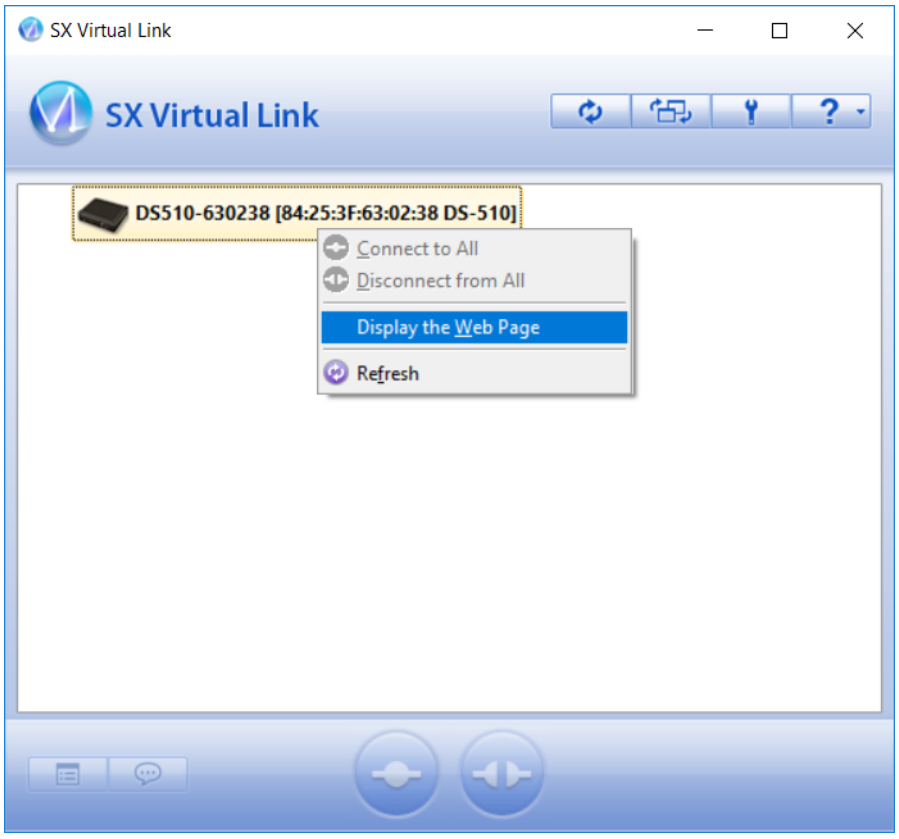
1 Download and install the SX Virtual Link Utility (desktop app, not the utility light version)

2 Make sure that the Silex gateway is powered on and shares the same subnet as the PC on which you run the utility.

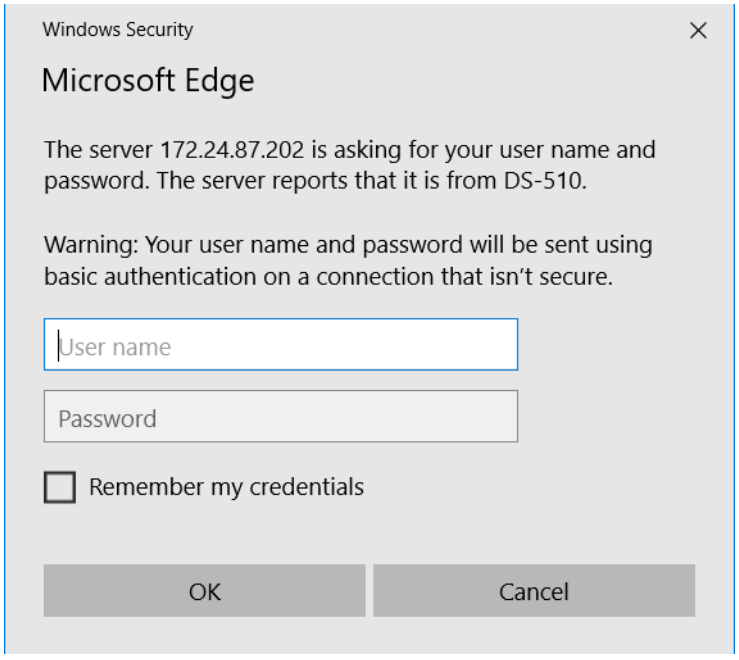
   Note: oftentimes network cables within the same room share the same subnet; WIFI vs network cables can already be configured via different subnets, depending on your IT settings

3 Open the SX Virtual Link Utility. You should see the connected gateway automatically. If not, see below*.

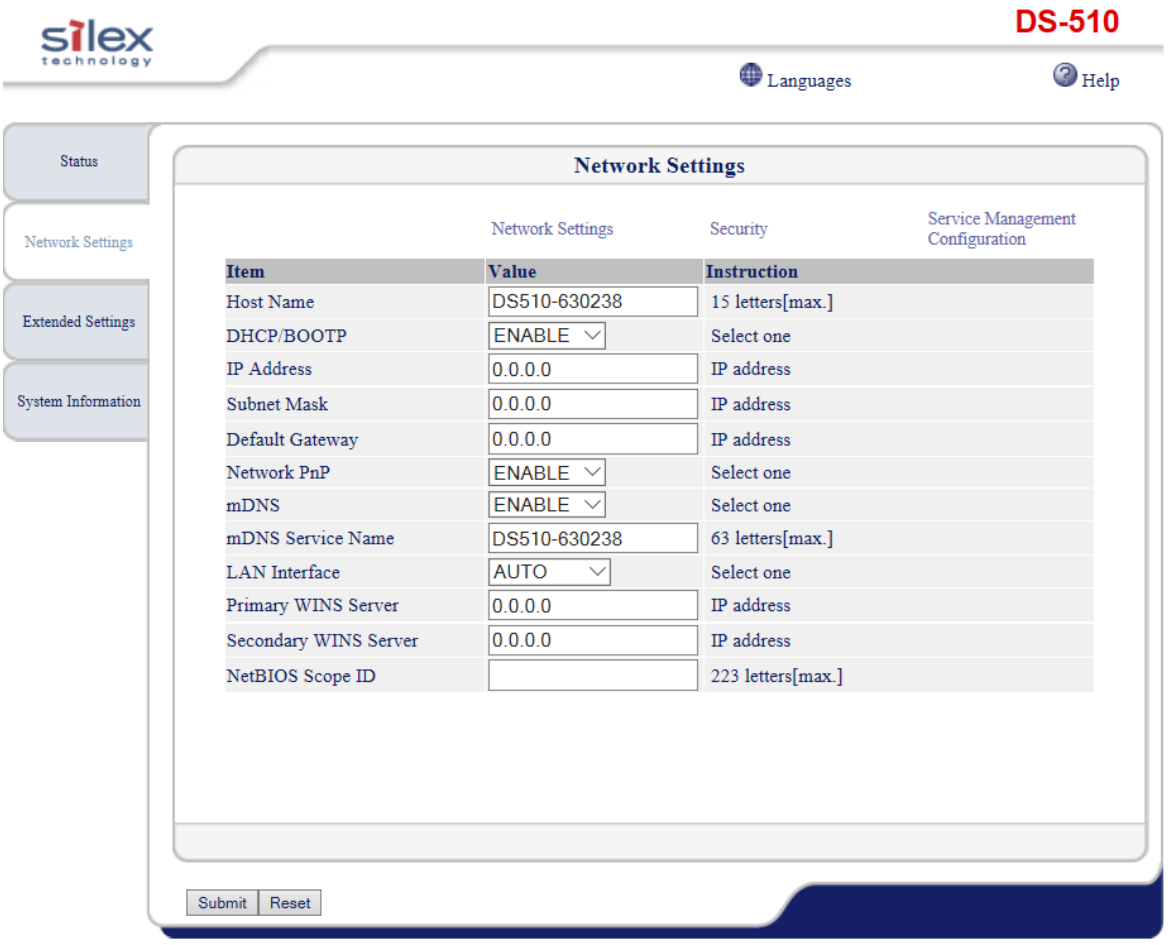
4 Right-click the gateway and select **Display the Web Page**



5 Enter the username of your gateway (this can be found on the label on the back of your Silex Gateway and will most likely be "Root"). Leave Password empty.



6 Under Network Settings, you can now enter the static IP address and Subnet Mask



*You should see the connected gateway automatically. If not,

1 Click the **Options** icon in the Utility

2 Go to the second tab **Search for device servers**, enable **broadcast addresses**, and enter the IP address.

Note
You can find your IP address by opening the Windows Command Prompt
1 Type "cmd" in Windows search and hit enter to open **Command Prompt**.
2 In Command Prompt, type "ipconfig" and hit enter.
3 Copy the IPv4 address to the SX Virtual Link Utility.
4 Change the last 3 digits of the IP address to 255.

3 Click **Add**, **Apply**, and **OK** to close the window.

➡ The gateway is shown.

6.4.2.4 Silex gateway: VMs

Refer the Installation Guide (section "Virtualized Environments").

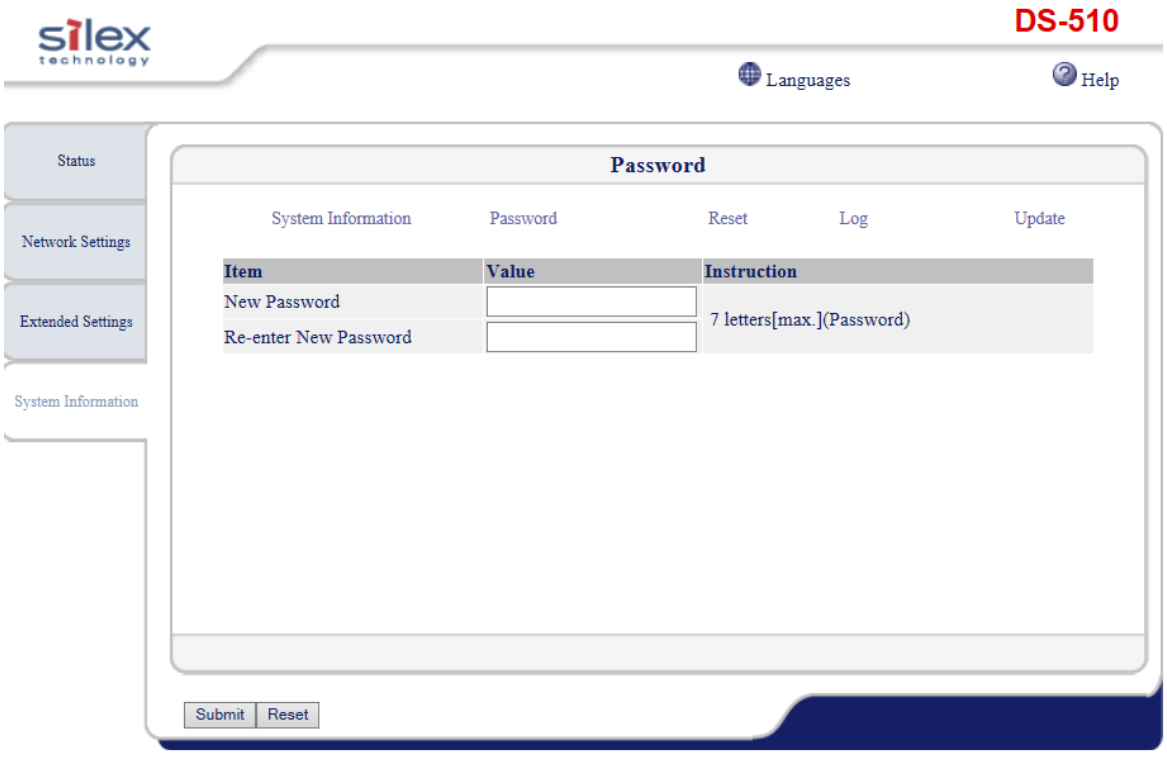
6.4.2.5 Silex gateway: Setting the gateway's password

We strongly recommend changing the password of your Silex Gateway prior to deploying it in your network. The default PW of Silex is empty. To set or change the PW on a Silex Gateway, you will need the SX Virtual Link Utility.

To set the Password, follow the steps below:

1 Go to the Webpage of the gateway (how to get here, please follow the steps as explained in section [4.4.3.3 Silex gateway and subnets ▸ Page 66])

2 Under **System Information** click **Password.**



3 The first time that you do this you will be prompted for a new password.

4 Enter the new Password, re-enter it and click **Submit**

6.4.3 Update Device Software

Updating the device software of the Silex Gateway cannot be done from PipetteX. To update the device software, you must use the SX Virtual Link Utility. Besides, you must download the new software file from the Silex website. Please look for any updated device software on the Silex website and search for DS 510 or DS 700.

▸ https://www.silextechnology.com

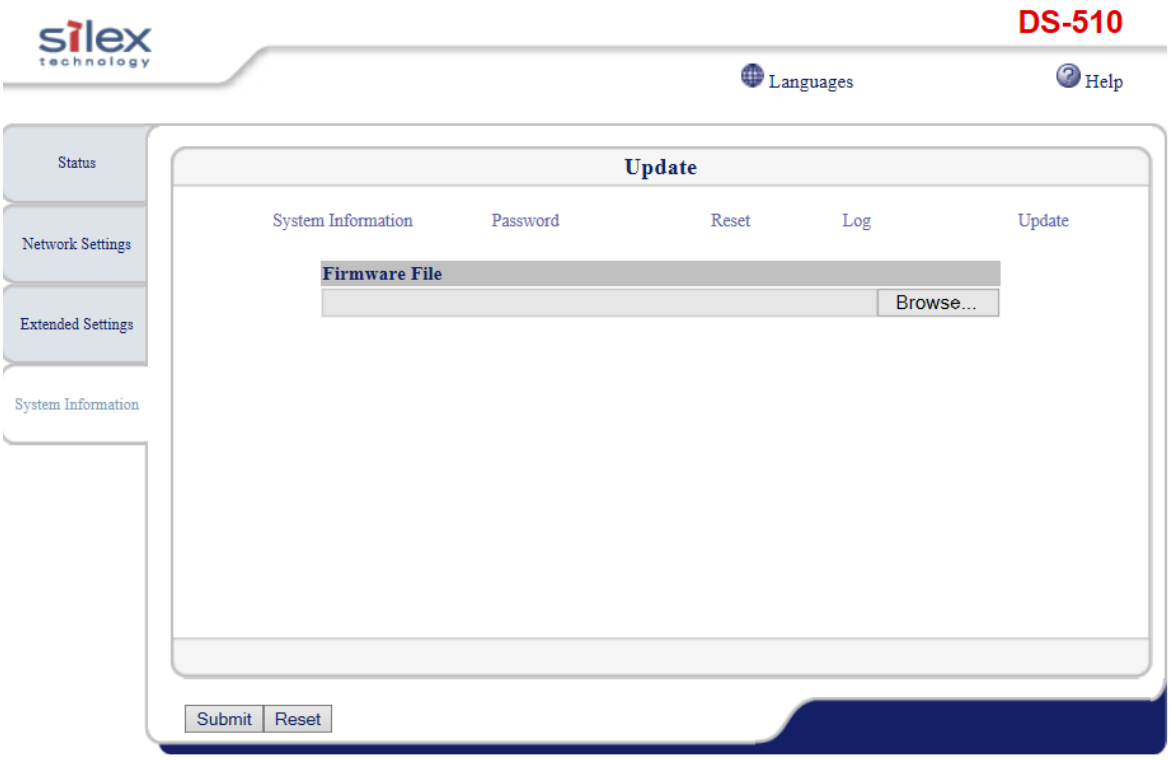
Note

- If you decide to update the device software to a later version than described/recommended by METTLER TOLEDO, we cannot guarantee that the Silex Gateway will work in combination with PipetteX.

To update the device software, follow the steps below:

1 Go to the Webpage of the gateway (how to get here, follow the steps as explained in section [Silex gateway and subnets ▸ Page 66]).

2 Under **System Information** click **Update**.



3 Click **Browse** and select the previously downloaded file from the Silex website.

4 Click **Submit** to execute the file to the gateway.

6.4.4 Delete Gateway

To delete the gateway in PipetteX, follow the steps below:

1 Select the Gateway to be deleted

2 Click and confirm

Note

- By removing the gateway, the connected SmartCheck and EasyScan USB RFID reader will no longer be connected to PipetteX. To reconnect these devices, you can plug them into another gateway and add this gateway to PipetteX. Both devices will be automatically recognized and displayed as actively connected devices.

6.5 Balance

Click on the balance icon in the top ribbon. The overview grid shows key information. Note that there are more data points available through the column chooser functionality. Read the section [Filter, views, column chooser ▸ Page 140] to learn how to use the column chooser.

6.5.1 Add Balance

6.5.1.1 Add balance: XPR/XSR Analytical Balance

PipetteX supports retrieving routine test reports from an XPR/XSR balance. For more information about balance, and configuration refer to the **Pipette Verification** section in the Installation manual.

To configure the balance, follow the steps below:

1 From the home screen, press the **Settings** menu button .

2 In the settings menu, navigate to the second screen using arrow keys.

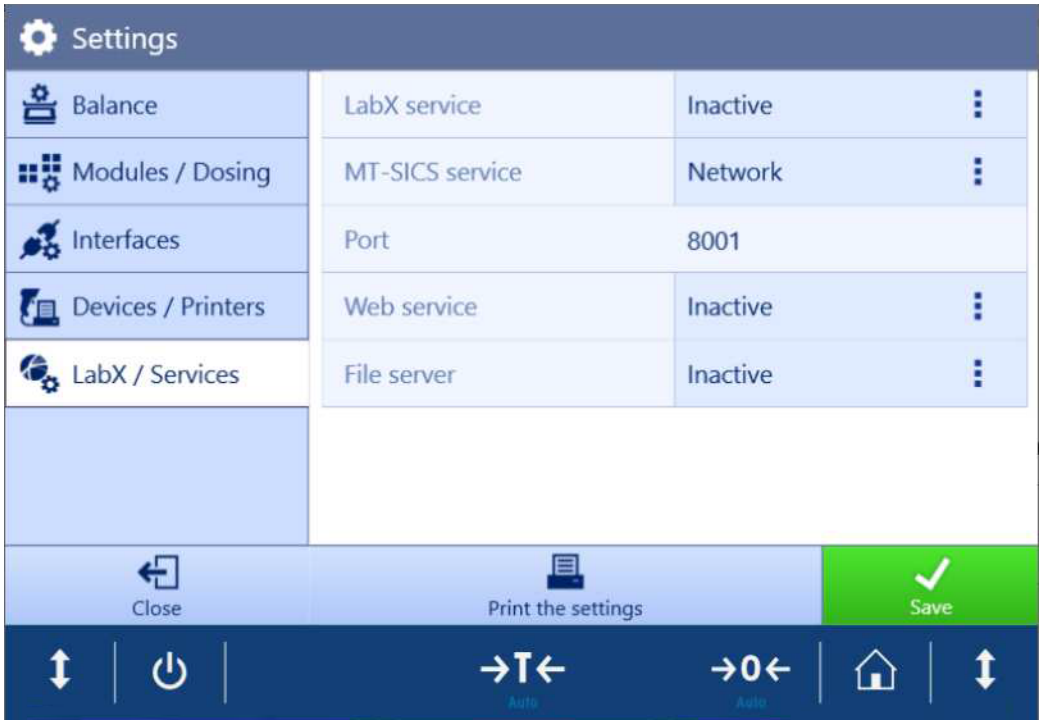
3 **XPR Analytical Balance**: Tap **Balance** > **Automatic weight value output**.

4 **XSR Analytical Balance**: Tap **Balance** > **Weighing / Quality** > **Automatic weight value output**.

5 Set the **Target** value as **HID / MT-SICS** and click **OK**.

6 **XPR/XSR Analytical Balance via ethernet**:
Tap **LabX / Services** and set the **MT-SICS service** value as **Network**.

Note
If there is an interruption to device communication, or a pop-up appears with the device in the blocked state, it is recommended to disconnect the device from the network and then reconnect.



7 **XPR/XSR Analytical Balance via USB**: Tap **LabX / Services** and set the **MT-SICS service** value as **USB**.

Note

If there is an interruption in device communication or a pop-up appears with the device in the blocked state, it is recommended to unplug the USB cable from the balance and plug it again.

Add a balance in PipetteX

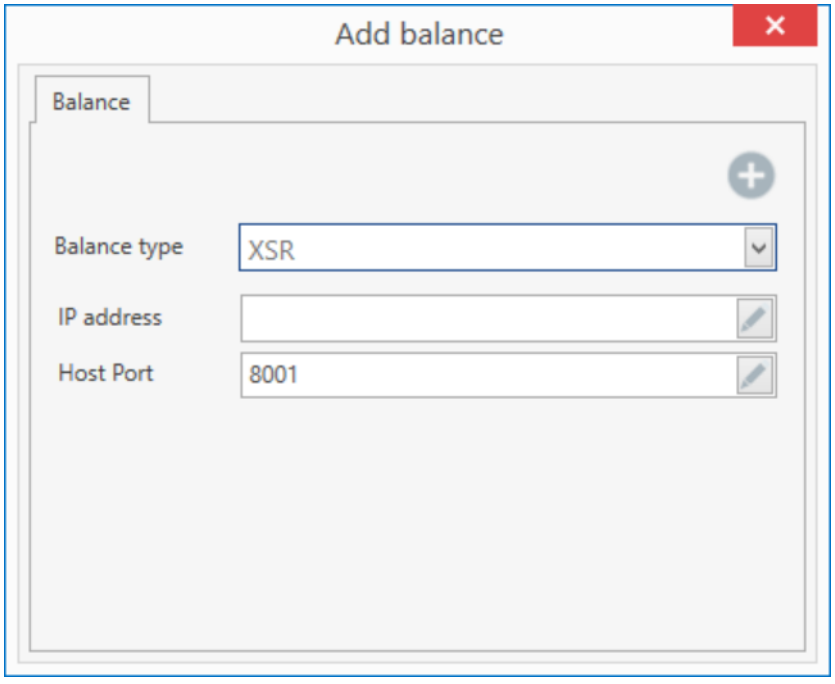
To add an XPR/XSR balance in PipetteX via Ethernet, follow the steps below:

1 Connect your balance via Ethernet.

2 Select **SmartChecks/Balances** in the toolbar.

3 Click the **Add** icon to add a new balance.

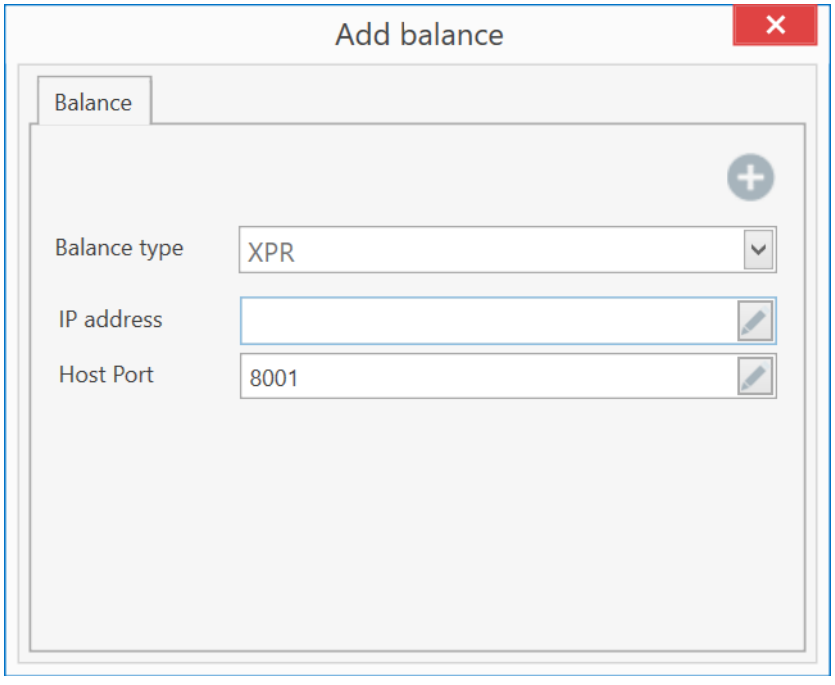
4 Enter the **IP Address** and **Host Port** number.
The IP address that you need to use to map the balance in PipetteX is available directly under the **System** settings of the balance.



➡ Your balance is listed in the **Balance type** drop-down list.

To add an XPR/XSR balance in PipetteX via USB, follow the steps below:

1 Plug-in the USB cable on the balance.
➡ A pop-up is displayed on the PC port/gateway and the balance is listed in the **Balance type** drop-down list.



Note

- It is recommended to disconnect the balance from the application before you change the connectivity mode (USB to Ethernet or vice versa).

- If there is an interruption in balance communication, or the balance has frozen (no longer usable), it is recommended that you turn the balance off and then back on.

6.5.1.2 Add balance: XPE/XSE Analytical Balance

To import QuickCheck reports electronically from XPE/XSE balance, follow the steps below. For any hardware-related questions, see the **Pipette Verification** section in the Installation manual.

1 Connect your balance via the Ethernet port (the Ethernet port is optional on an XPE/XSE balance, contact METTLER TOLEDO if you need this option).
2 Select the **SmartChecks/Balances** button from the menu bar.
3 Click the **Add balance** icon to add a new balance.
4 Select **XPE/XSE** from the **Balance type** drop-down list.
5 Enter the **IP Address**, **Host Port**, and **Print Port** numbers. The IP address that you need to map the balance in PipetteX is available directly under the **System** settings of the balance.
   ➡ On an XPE analytical balance, click **System** > **Option** > **IP Address**. The **Host Port** and **Print Port** are populated by default. Leave them as is unless you have changed it from the balance.
   ➡ On an XPE analytical balance, click **System** > **Peripheral** > **Printer** > **Ethernet Option** > **End of Line** > <CR> <LF> system> Peripheral > Host > Ethernet Option > End of Line> <CR><LF>

➡ Your balance is listed in the **Balances** View.

To assign QuickCheck reports from the balance automatically to pipettes in PipetteX, configure the QuickCheck report layout on the balance. Follow the steps below:

1 Press the **Applications** menu button on the balance and select **Pipette Check**.
   ➡ The balance is configured to pipette check mode by default.
2 From the home screen, press the **Settings** menu button on the balance available on right hand side of the display unit.
3 In the **Settings** menu, navigate to the second screen using arrow keys.
4 You will find the **Pipette Check Protocol** menu. Press **Define**.
   ➡ You will be redirected to configure **Header**, **Single Value**, **Footer** values of the quick check report.
5 Configure your QuickCheck report to have the settings illustrated in the images below:

The following parameters should be defined as per the below ranking to have the QuickCheck report automatically assigned to the pipettes in PipetteX.

Note

The balance ranks your settings input successively after you select the option, meaning: if you find out retrospectively that the settings' ranking is wrong, you should disable all settings until you reach the wrongly ranked setting and then continue again.

Balance menu explanation

Menu Item	Explanation	Further information
Header	Define the information to be printed in the protocol header (before the results).	See section Header line of protocols
Single value	Defines the information to be recorded for each individually tested volume.	See section Recording single values
Footer	Define information to be printed in the protocol footer after the results (single values).	See section Protocol footer

Header line of protocols

Ranking	Screen in app	Values	Explanation
1	**1/4**	**Appl. Name**	Defines it as the QuickCheck application
	1/4	**Title 1**	Defined by user

Ranking	Screen in app	Values	Explanation
	1/4	**Title 2**	Defined by user
2	**1/4**	**Date/Time**	Date and time when the QuickCheck was performed
	1/4	**User**	User who performed the QuickCheck
3	**1/4**	**Balance Type**	The balance type is printed. The balance type is generated by the balance and cannot be changed by the user.
4	**1/4**	**SNR**	The serial numbers of the balance and terminal are printed. The serial numbers of the balance and terminal are generated by the balance and cannot be changed.
	1/4	**Balance ID**	ID of the balance
	2/4	**LevelControl**	Defines whether balance was leveled or not
	2/4	**ID1**	Additional info
	2/4	**ID2**	Additional info
	2/4	**ID3**	Additional info
	2/4	**ID4**	Additional info
6	**2/4**	**Pipette model**	The pipette type is printed.
5	**2/4**	**Pipette SNR**	Prints the pipette serial number.
7	**2/4**	**Nominal vol.**	Records the nominal volume of the pipette.
	3/4	**Comment**	Comment field after QuickCheck
8	**3/4**	**No. of measurements**	Records the number of measurements.
9	**3/4**	**Env. data**	Records the air pressure, air temperature, water temperature and humidity.
10	**3/4**	**Conv. factor Z**	Records the conversion factor Z.
	3/4	**Overall result**	Records whether Quick-Check was passed or failed.
	3/4	**Signature**	Adds a signature line
	3/4	**Blank line**	Adds a blank line
	3/4	**Dash line**	Adds a dash line
	4/4	**Dash line**	Adds a dash line
	4/4	**3 blank lines**	Adds 3 blank lines

Single values

Ranking	Screen in app	Values	Explanation
1	**1/1**	**Check vol.**	Records the check volume.
2	**1/1**	**Limits**	Records the maximum permissible check volume system error and random error (tolerance limits).
3	**1/1**	**Meas. details**	Records details of the measurement (number and calculated volume of each sample).
4	**1/1**	**Statistics**	Records: • average sample volume • check volume systematic error [µl] und [%] • check volume random error [µl] und [%] • calculated measurement uncertainty
5	**1/1**	**Result**	Records the volume result (passed/failed).

Protocol footer

Ranking	Screen in app	Values	Explanation
	1/3	**Appl. Name**	Defines it as the quickcheck application
	1/3	**Title 1**	Defined by user
	1/3	**Title 2**	Defined by user
	1/3	**Date/Time**	Date and time when the QuickCheck was performed
	1/3	**User**	User who performed the QuickCheck
	1/3	**Balance Type**	The balance type is printed. The balance type is generated by the balance and cannot be changed by the user.
	1/3	**SNR**	The serial numbers of the balance and terminal are printed. The serial numbers of the balance and terminal are generated by the balance and cannot be changed.
	1/3	**Balance ID**	ID of the balance
	2/3	**ID1**	Additional info
	2/3	**ID2**	Additional info
	2/3	**ID3**	Additional info
	2/3	**ID4**	Additional info
1	**2/3**	**Overall result**	Records whether QuickCheck was passed or failed.
2	**2/3**	**Signature**	Adds a signature line
	2/3	**Blank line**	Adds a blank line
	2/3	**Dash line**	Adds a dash line
	3/3	**Dash line**	Adds a dash line
	3/3	**3 blank lines**	Adds 3 blank lines

When you perform a QuickCheck for your asset using the balance, the QuickCheck report is automatically saved to the asset.

See Non-Labeled Certificates when PipetteX cannot link the QuickCheck report to your asset automatically.

6.5.1.3 Add balance: LabX controlled balance

Adding a LabX-controlled balance works identically to a non-LabX-controlled balance. PipetteX and LabX can therefore consume data from the same balance at the same time, as long as the Pipette Check application is enabled on the home screen of the XPE balance.

6.5.2 Release Balance

Depending on whether you have release policies active, you will have to release the balance before you can start using it. To do so,

1 Select the balance(s) to be released and double click (in case of only 1 balance) or go to the specifics view to click the bulk edit functionality.

2 Assign an address to the balance(s) and click **Save**.

3 If a release policy applies to the assigned balance, click on .

4 Add a comment. You can use standardized comments. See section [Comments ▸ Page 124] to learn how to define standard comments and see section [Policies ▸ Page 136] to learn how to assign comments to policies.

5 Sign-in with your PipetteX credentials (provided you have release rights for Balance as per release policy).

6 Release the balance.

6.5.3 Configure Balance

Identical to the SmartCheck. See section [Configure SmartCheck ▸ Page 60].

6.5.4 Delete Balance

Identical to the SmartCheck. See section [Delete SmartCheck ▸ Page 63].

6.5.5 Reconnect Balance

Identical to the SmartCheck. See section [Reconnect SmartCheck ▸ Page 64].

Note

The connection type is automatically updated to USB if the balance previously connected through Ethernet is reconnected with USB.

6.5.6 Export Balance

You can mass export balance(s) from the software using the **Import / Export** functionality.

To export the balance(s) using **Import / Export**, follow the steps below:

1 Click the **SmartChecks/Balances** button on the ribbon.
2 Select the balance(s) you want to export.
3 Click ••• and select **Import / Export**.
4 Select **Export data**.
5 Select **New** in the target field.
6 Define the location where you want to store the file in the **Save As** window.
7 Enter the **File name** and click **Save**.
8 Click to export.

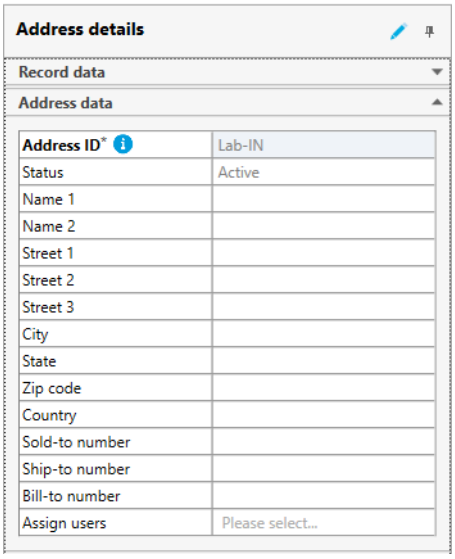
7 Functions

Functions described in this manual are listed in a logical sequence for how PipetteX needs to be prepared for daily operational use.

7.1 Addresses

In PipetteX you start with setting up the different addresses and locations of your organization that you later want to assign the assets and users. You can input different fields as per the window below.

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Read section [Filter, search, column chooser ▸ Page 140] to learn how to use the column chooser.



Each address can have a status:

- **Active:** The address is active and can be assigned to users or assets.
- **Deleted:** The address is retired, deleted from the view, and cannot be assigned to users or assets anymore. For audit trail purposes, the address record will remain on the system and can be accessed from the Retired view.

To set up addresses in PipetteX, you can choose to do this manually or use the import functionality.

7.1.1 Add Addresses

7.1.1.1 Add Addresses Manually

To add an address manually, follow the steps below:

1 Click in top ribbon bar and subsequently to the top-right of the screen to add a new address.

2 Add all the details and click to save the record. Notice that you can add your own **Address ID** to an address name to make it easily identifiable when you have to assign it to users or assets later (if you need to add many addresses, think about a logical naming structure, so you can easily identify them later).

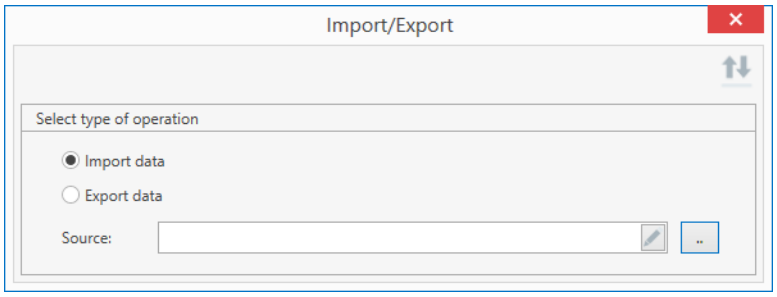
3 To change the content of an existing address, double-click on the record from the list.

Note

The **Address ID** must be unique and the ID cannot be duplicated even for an address in the **Retired** state.

7.1.1.2 Add Addresses via Import

You can import and export address details from an Excel file by clicking ⇅.



Import

To import address details from an Excel file, you have to select a valid address list file. To create a valid address list file, use the import/export functionality on the address tab by:

1 Click ⇅.
2 Select export and then **New**.
3 Provide a valid file name and save it to a known location.
4 Fill out all details and save.
5 Import this Excel file back into PipetteX.

Note

- Do not change the names of the column headers in the upload file. As soon as these do not match with the field names in PipetteX, the application will not be able to upload the file correctly.

7.1.2 Edit Addresses

You can edit an address at any time. You can do this for each address individually, by double-clicking the address and updating the information. Alternatively, you can use the import/export functionality to mass update information. Ensure that you do not change the System ID and Address ID if you export/import.

If these do get changed, PipetteX will add new records to the database instead of updating the existing ones.

You can use the Import functionality to edit addresses. PipetteX will verify the record by the Address ID in your import file and update the information accordingly.

Note

- If you have a duplicate AddressID in your import file, PipetteX will reject the record for import/update

7.1.3 Export Addresses

You can export addresses from PipetteX in two ways:

Export manually

To export to a new (empty) excel file, click ⇅, select export, and then **New**. You will need to provide a valid file name upon which the field names are automatically populated. Next, click ⇅ in the top right corner, and the file gets saved to the destination.

To export to an existing Excel file, click ⇅ and select an existing file. Next, click ⇅ in the top right corner and the file gets saved to the destination. The application will overwrite any data in the existing file and replace it with the data shown in PipetteX.

7.1.4 Delete Addresses

You can delete addresses from the database either one by one or multiple at the same time. To delete multiple, select the records you want to delete by holding Shift and selecting the records and then click 🗑.

7.2 User Roles

There are four default user roles in PipetteX:

- **Admin**: Access to all software functionality and user status is always **Active**.
- **Service Administrator**: A person who is in charge of handling all the assets and their service.
- **Lab Manager**: This role can manage the assets assigned to their lab or group.
- **Researcher**: This role can see the assets for their lab or group.

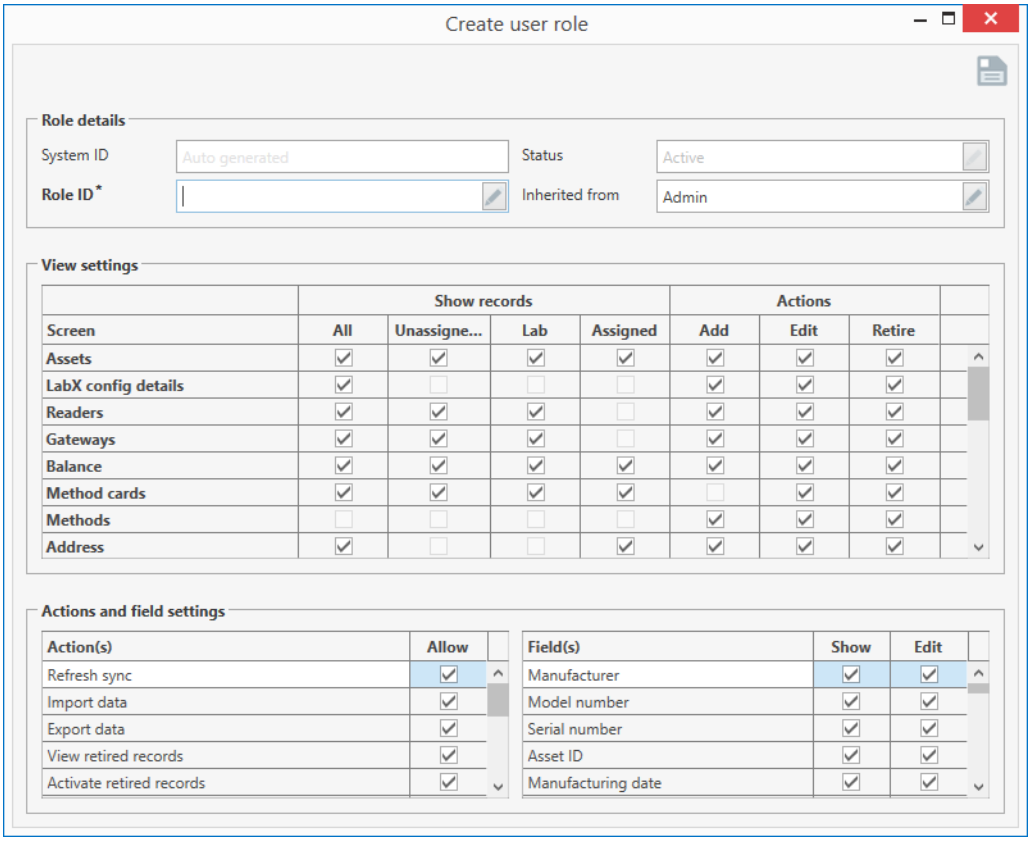
An overview of the rights for each user role can be found in the section [Appendix ▸ Page 149].

In addition to the standard User roles available in PipetteX, you can set up new roles and privileges based on your needs. You can do so using **Role management** available under **User Management**.

When you enable second-level e-sign for **E-sign policy** under **Settings** > **Policies**, you can decide which user role can sign at which level (**Review** or **Approve**). By default, the user can perform **Review** and **Approve**. If you select the **Different user required** check box, you allow different users assigned with the same user role to sign off your records (Methods, Audit trail, Certificates, etc.).

7.2.1 Add User Roles

You can create a new user role by pressing the button. The screen in the figure below will then be displayed where you can set up a user role based on your need.



For convenience, you can derive a user role from the existing standard user roles provided in PipetteX. Once created, you can then assign this new role to your users. To see the rights for each section of the application, select the row in the grid of the **View settings** and find the corresponding **Actions and field settings** at the bottom of the screen.

If any change is made in user role setting, the concerned users must log off from PipetteX and log in again to apply the changes.

Note

- You cannot add additional privileges to the user role beyond the capabilities of the inherited role.
- You cannot inherit a role from the new user role.

- You need to be an Admin to add or modify user roles.
- The default roles (**Admin**, **Lab Manager**, **Researcher**, and **Service Administrator**) cannot be changed.

7.2.2 Delete User Roles

The four default user roles cannot be deleted from the system. You can remove any user-created user role from the system. To do so, select the record you want to remove and click the icon.

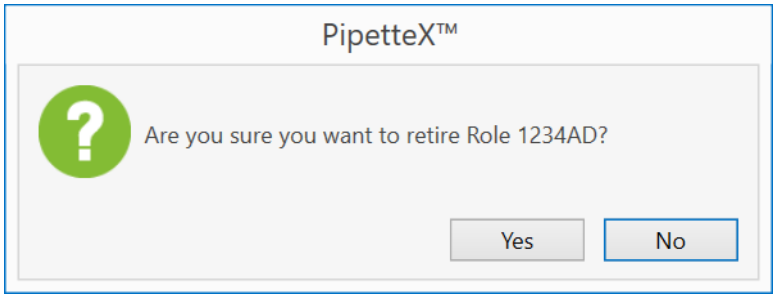
To delete the user role, follow the steps below:

1 Go to **Add or configure user roles** > **User roles**.

2 Select the role that you want to delete.

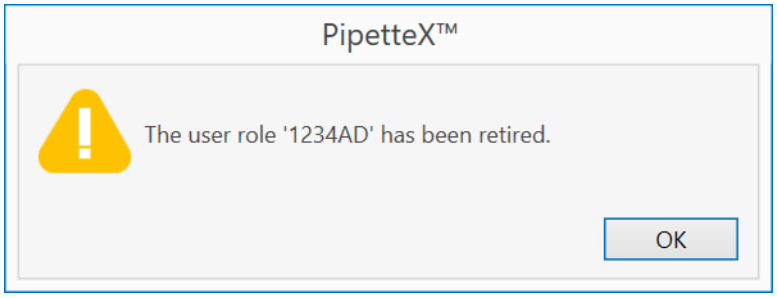
3 Click **Retire user role.**

➡ The following dialog box is displayed.



4 Click **Yes**.

➡ The selected user role is deleted.



7.2.3 Print User Roles

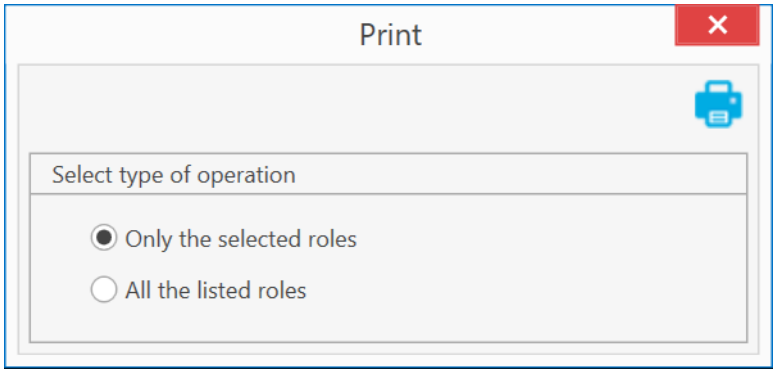
You can print the user details to PDF using **Print**. To print the user details, follow the steps below:

1 Go to **Add or configure user roles** > **User roles**.

2 Select the role that you want to print.

3 Click **Print user role.**

➡ The **Print** dialog box is displayed.

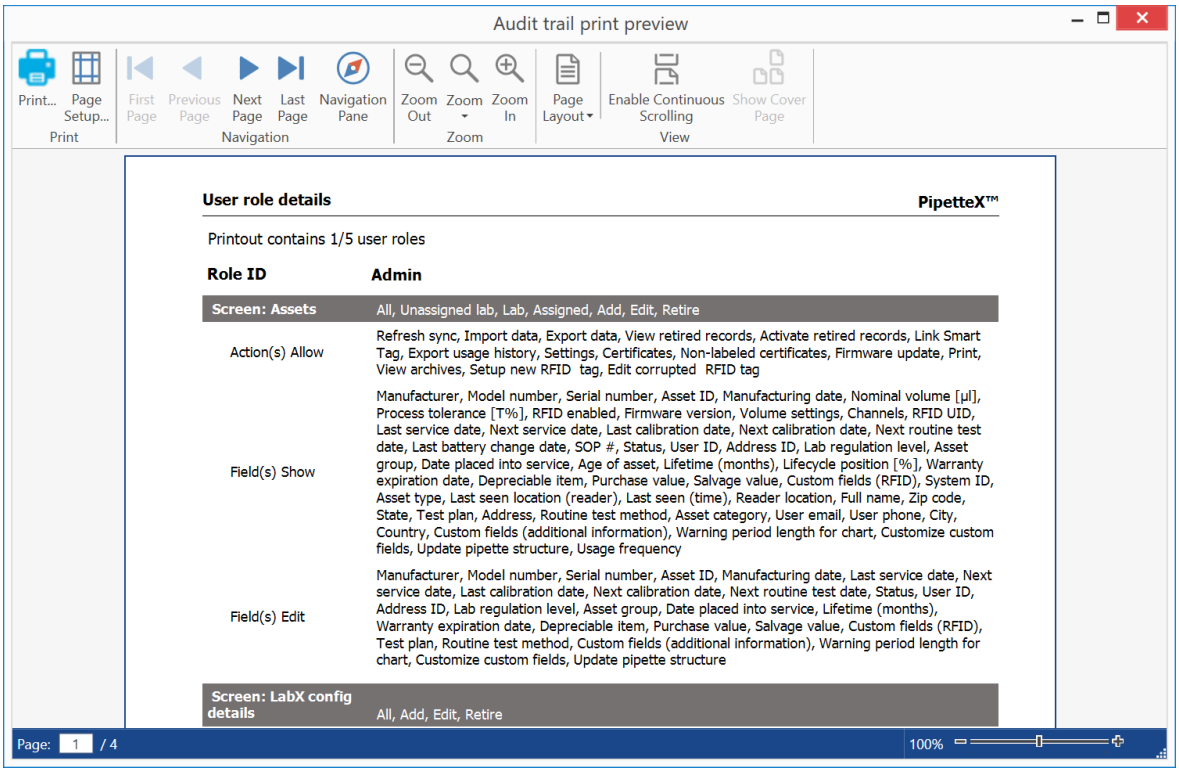


4 If you want to print the selected user role, select **Only the selected roles**.

5 If you want to print all the user roles, select **All the listed roles**.

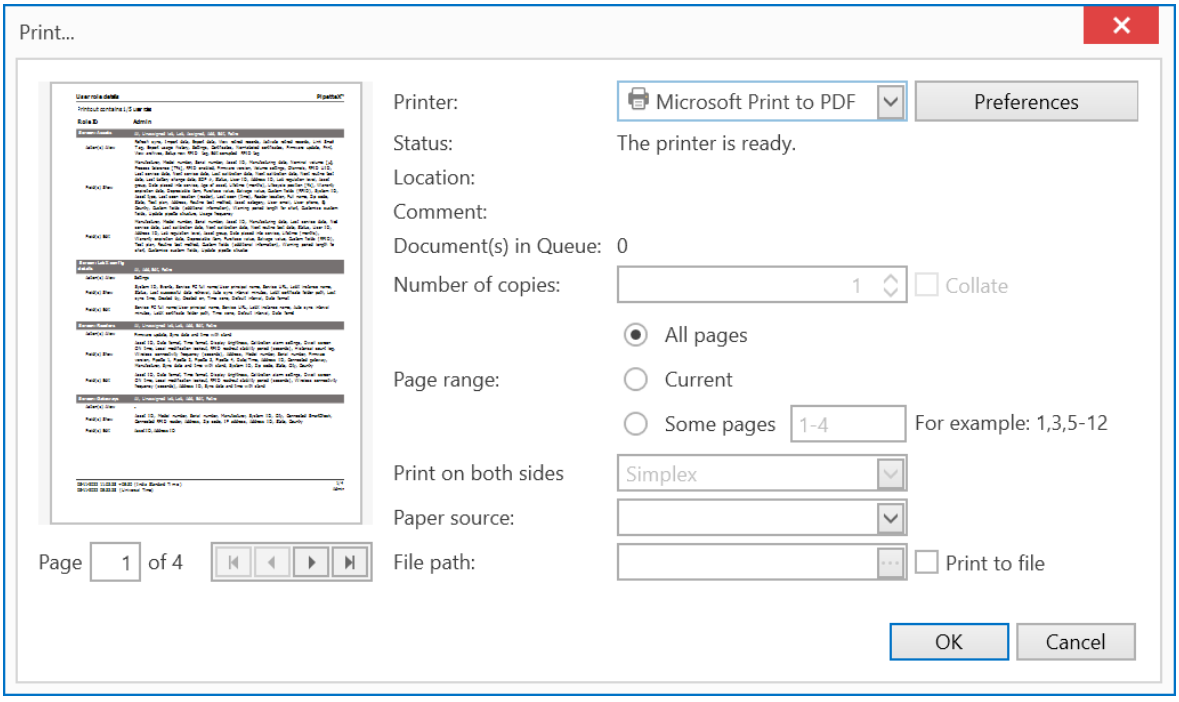
6 Click **Print.**

➡ The print preview is displayed.



7 Click **Print...**.

➡ The **Print...** dialog box is displayed.



8 Select your desired options and click **OK**.

7.3 Users

7.3.1 Add Users

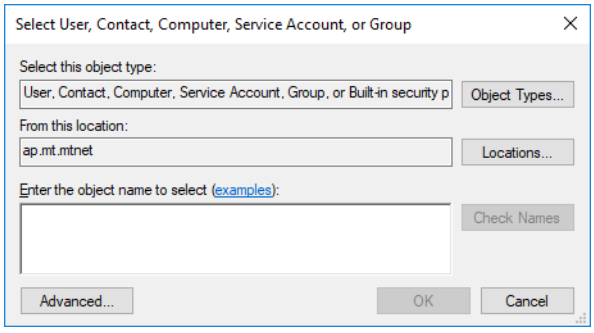
To set up users in PipetteX, you can choose to do this manually or using the import functionality. Before setting up users, consider the **Security Settings** under **Settings** (see section [Security ▸ Page 131]).

7.3.1.1 Add Users Manually

To add a user manually, follow the steps below:

1 Add a user by clicking on ⊕ to the top-right of the screen.
2 Enter the User ID (this becomes the login name)
3 Add first and last name, phone number, and email address of the user
4 Define the user role
5 Set the password
6 Assign the user an address
7 Ensure the status is **Active**

If you choose to use Active Directory and SSO, click on 👥. You will be prompted for your domain username. Enter the username/id along with the domain and press **Check Names** and **OK** upon success. You can now log in using your domain credentials.



The user's status can be set to

- **Active:** The user profile can be assigned to assets and the user can log in.
- **Inactive:** The user profile can neither be assigned to assets nor can be used to log in.

Note

- We strongly recommend that you set up a new Admin account with a unique password and set the default account as inactive.

7.3.1.2 Add Users via Import

To speed up things, you can also import users from an existing Excel file. This also works for Active Directory (AD). Read the Note section under import on how to do this.

To import user details from an Excel file, you have to select a valid user list file. To create a valid user list file, use the import/export functionality on the user tab by:

1 Click ⇅.
2 Select Export and then **New**.
3 Provide a valid file name and save it to a known location.
4 Fill out all the details.
5 Import the Excel file back into PipetteX.

Note

- Do not change the names of the column headers in the upload file. If these do not match the names in PipetteX, the application will not be able to upload the file correctly.

- The column name in the Excel file has to match the field name. During Import, a User ID and password are mandatory for non-domain users.
- To import AD users using Excel,
  - Fill out the respective AD username (including the domain name, e.g., EU\user-1) under the username.
  - Type "Yes" in the **Search Active Directory** column
  - Set **user status** to active
  - Assign a **user role**

7.3.1.3 Linking User Card

You can configure whether your identification is required or not. Your identification is required while performing an autonomous routine test. You can link a User card after enabling **Require user identification** under **Settings** > **Policies**. By default, it is disabled.

You can only link one SmartTag/User card or Method card.

- When the User card is linked, you can only unlink the SmartTag.
- You cannot change the identification of your SmartTag after it is linked to the user card.
- When you try to link a SmartTag which is already linked with Pipette/ Method/ User, a pop-up message **The scanned RFID is linked to a different Pipette/ Method/ User** will appear.

Note

To link a User card, a user must be active.

7.3.2 Disabled User Accounts

If a user forgets their password, the admin can reset their account. To do so,

1 The admin should change the account status from inactive to active.

2 The admin will be asked whether they want to give the user a new password. If you select **Yes**, the admin must provide this temporary password to the user. Upon logging in, the user will have to choose a new password. If you select **No**, the user can log in with their old password again.

3 Click save.

➡ The account is active again

For admins that have lost their login credentials, contact METTLER TOLEDO.

7.3.3 Delete Users

You can delete users by selecting their record and clicking the icon. The user profile is then removed and the user can no longer log on to the applications. If you have AD with SSO active and the user gets removed from your AD, the user will no longer be able to log on to PipetteX either.

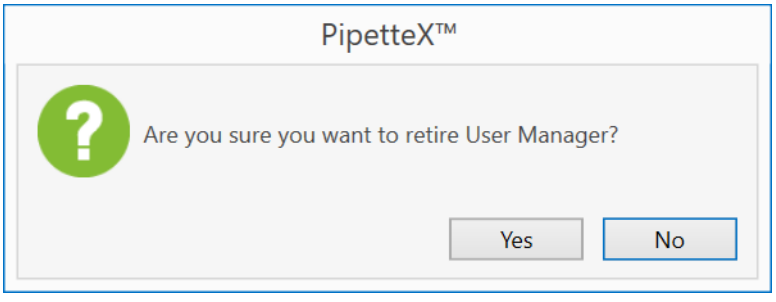
To delete the user, follow the steps below:

1 Go to **Add or configure user roles** > **Users**.

2 Select the user record you want to delete.

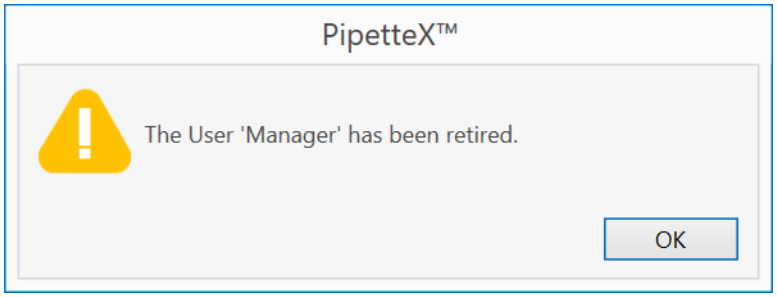
3 Click **Retire user.**

➡ The following dialog box is displayed.



4 Click **Yes**.

➡ The selected user is deleted.



7.3.4 Export Users

To export to a new (empty) Excel file,

1 Click ⇅, select Export and then **New**.

2 You will need to provide a valid file name upon which the field names are automatically populated.

3 Click ⇅ in the top right corner and the file gets saved to the destination.

To export to an existing Excel file,

1 Click on ⇅ and select an existing file.

2 Click the top right corner and the file gets saved to the destination.

➡ The application will overwrite any data in the existing file and replace it with the data as shown in PipetteX. See section [Users tab data ▸ Page 52] for additional export functionalities.

7.3.5 Print Users

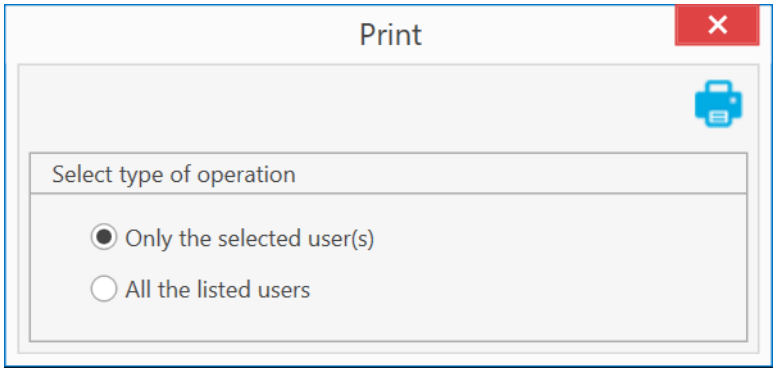
You can print the user details to PDF using **Print**. To print the user details, follow the steps below:

1 Go to **Add or configure user roles** > **Users**.

2 Select the user record that you want to print.

3 Click **Print.**

➡ The **Print** dialog box is displayed.

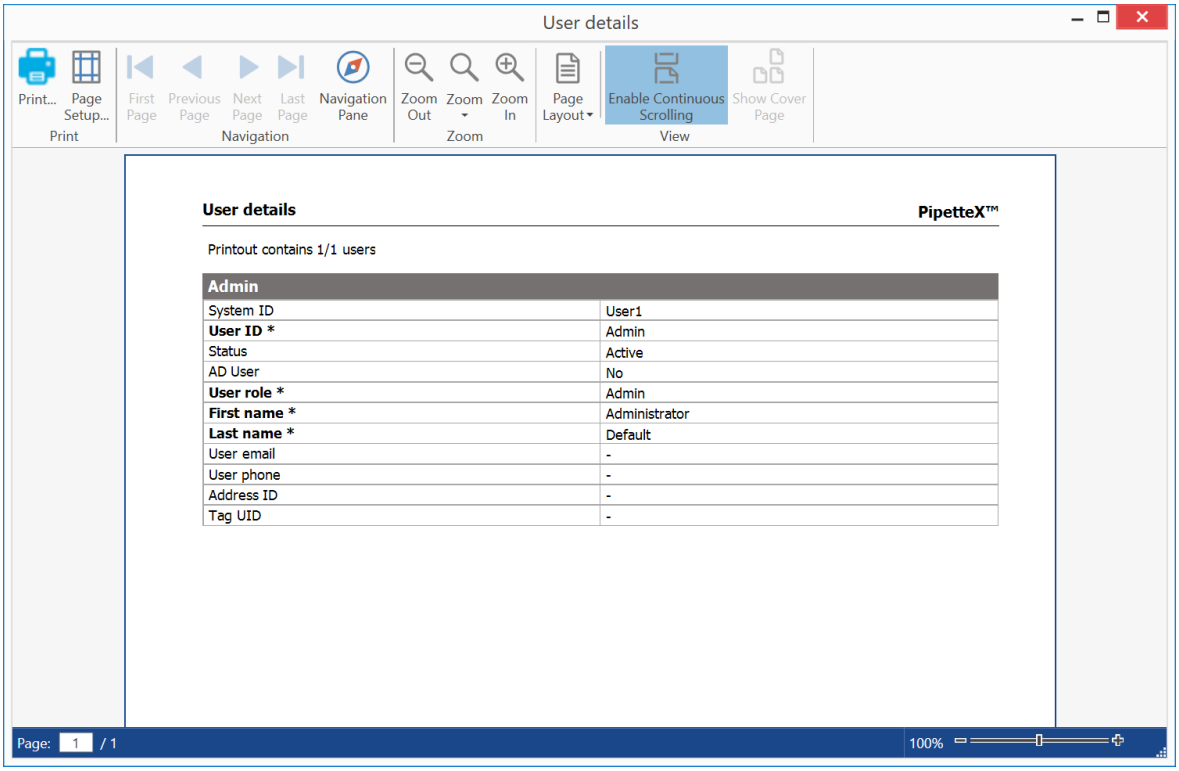


4 If you want to print the selected user record, select **Only the selected user(s)**.

5 If you want to print all the user records, select **All the listed users**.

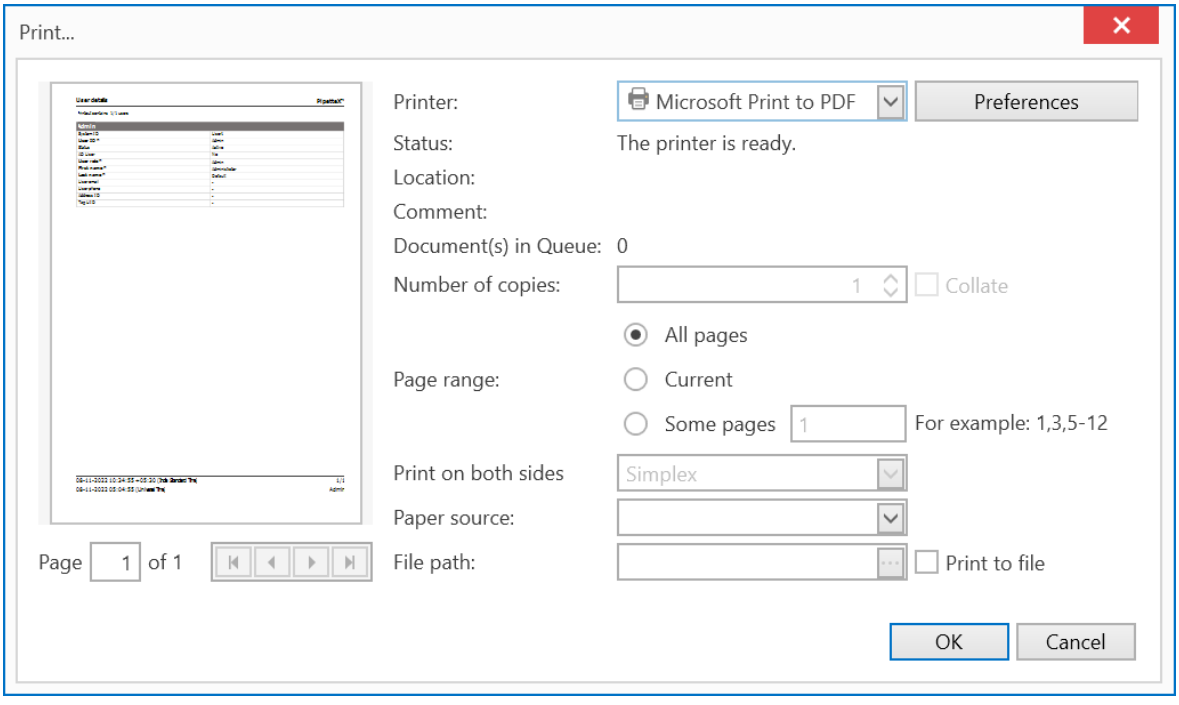
6 Click **Print.**

➡ The print preview is displayed.



7 Click **Print...**.

➡ The **Print...** dialog box is displayed.



8 Select your desired options and click **OK**.

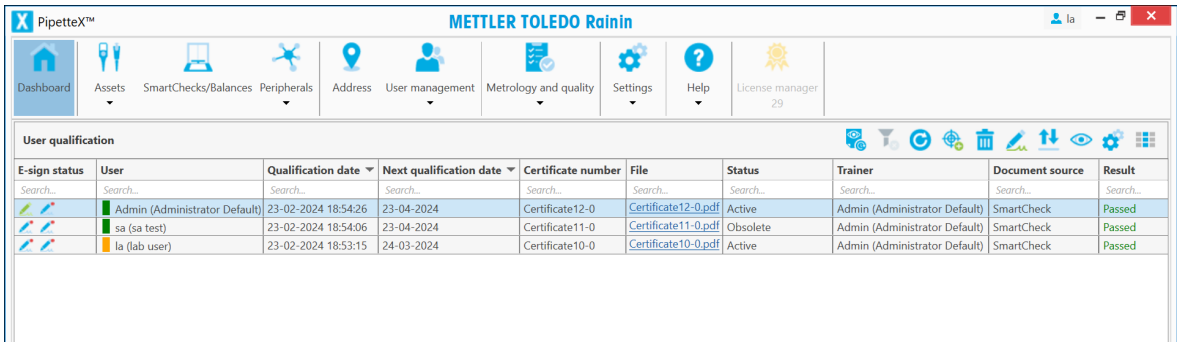
7.4 User Qualification

All SSO and PipetteX users are eligible for user qualification and re-qualification (no restriction based on user role). You can perform the user qualification and re-qualification with any of the devices below:

- SmartCheck

- XPR/XSR Balance

If you have appropriate user access rights, you can see the qualification records.



E-sign status	User	Qualification date	Next qualification date	Certificate number	File	Status	Trainer	Document source	Result
	Admin (Administrator Default)	23-02-2024 18:54:26	23-04-2024	Certificate12-0	Certificate12-0.pdf	Active	Admin (Administrator Default)	SmartCheck	Passed
	sa (sa test)	23-02-2024 18:54:06	23-04-2024	Certificate11-0	Certificate11-0.pdf	Obsolete	Admin (Administrator Default)	SmartCheck	Passed
	la (lab user)	23-02-2024 18:53:15	24-03-2024	Certificate10-0	Certificate10-0.pdf	Active	Admin (Administrator Default)	SmartCheck	Passed

Note

- The user qualification and re-qualification is available only with the following license types:
  - Site
  - Unlimited
- Users cannot add, import, or edit the certificate.
- Even if the overall result is Failed, the user will be allowed to repeat the training or assessment, and the user will not be blocked. The lab can decide on further processes.

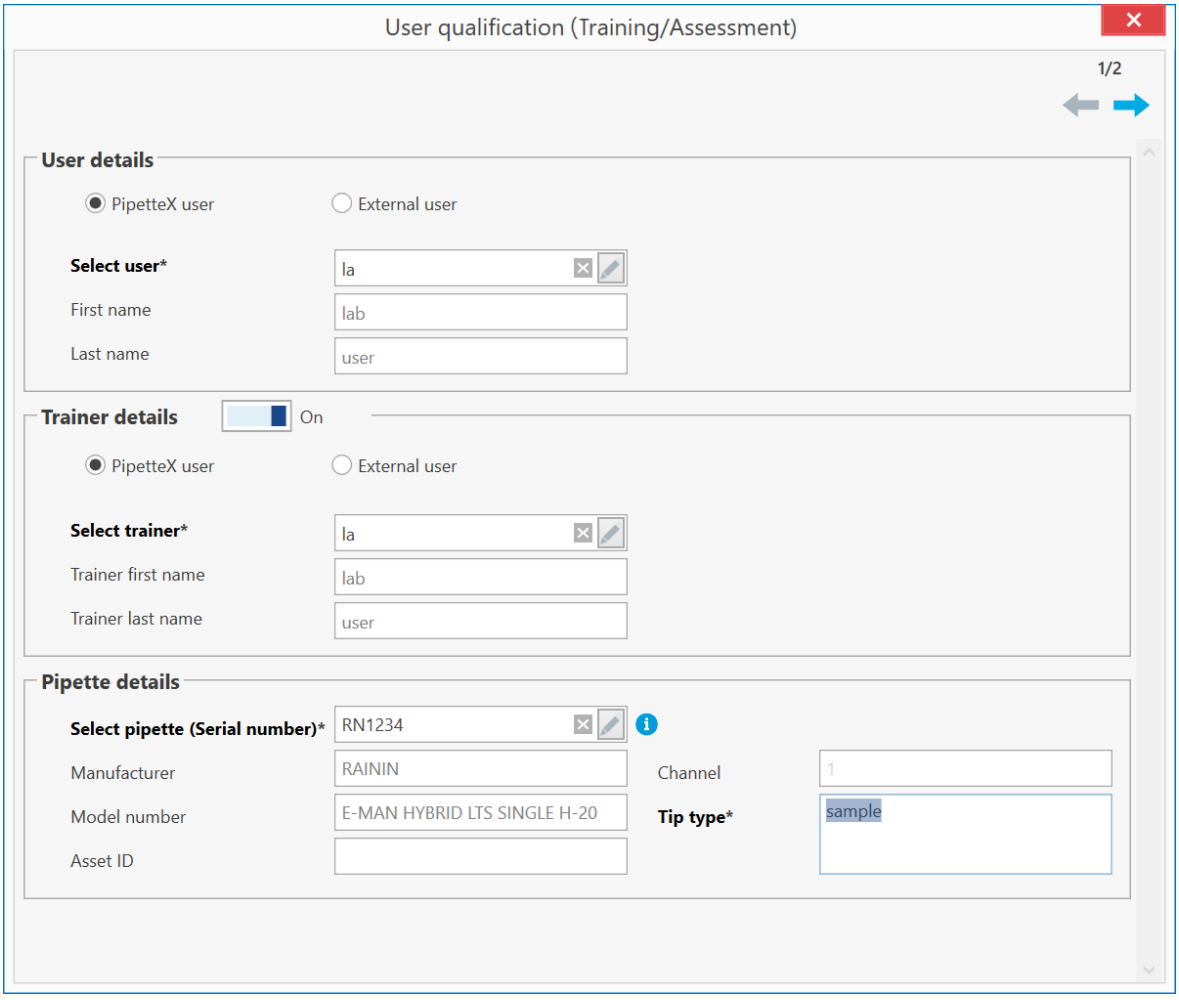
7.4.1 Perform Qualification

To perform the user qualification, follow the steps below:

1 Go to **User management** > **User qualification**.

2 Click **Perform qualification**.

➡ The **User qualification (Training/Assessment)** window is displayed.



3 Enter the following parameters:

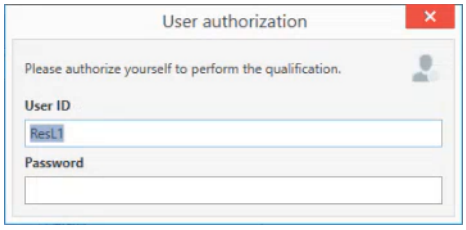
Parameter	Description
User	
User details	By default, the **PipetteX user** is selected. Select **External user** if the user is external.
PipetteX user	• **Select user***: Click the **Edit** icon to select the user from the drop-down list or enter a keyword in the search bar to find the user. You can choose either the logged-in user or a different user. **Note** The newly registered user selected from the drop-down list can perform qualification only after logging into PipetteX. • **First name**: The first name is automatically displayed based on the user selected. • **Last name**: The last name is automatically displayed based on the user selected.
External user	• **First name***: Enter the first name of the user. • **Last name***: Enter the last name of the user. • **Role**: Enter the role of the user. • **Email ID***: Enter the email address of the user.
Trainer	

Parameter	Description
Trainer details	By default, the trainer details configuration is disabled. To enter the trainer details, you can set the toggle switch to on. When you set the toggle switch to on, **PipetteX user** is selected by default. Select **External user** if the trainer is external.
PipetteX user	• **Select trainer***: Click the **Edit** icon to select the user from the drop-down list or enter a keyword in the search bar to find the user. You can either select the logged in user or a different user. • **Trainer first name**: Based on the trainer selected, the first name is automatically displayed. • **Trainer last name**: Based on the trainer selected, the last name is automatically displayed.
External user	• **Trainer first name***: Enter the first name of the trainer. • **Trainer last name***: Enter the last name of the trainer. • **Trainer role**: Enter the role of the trainer. • **Trainer company**: Enter the company name of the trainer. • **Trainer email ID***: Enter the email address of the trainer.
Pipette details	
Select pipette (Serial number)*	Click the **Edit** icon to select the pipette from the drop-down list or enter a keyword in the search bar to find the pipette. The column search row helps in finding the data in the columns using the keywords. After selecting the pipette, the pipette serial number is displayed. **Note** The pipettes that are not released or due for calibration or in blocked, lost, or retired status are not listed.
Manufacturer	Based on the pipette selected, the manufacturer is automatically displayed.
Model number	Based on the pipette selected, the model number is automatically displayed.
Asset ID	Based on the pipette selected, the asset ID is automatically displayed. This field is empty if asset ID is not available.
Channel	Based on the pipette selected, the channel is automatically displayed. Enter the channel number if multi-channel pipette is selected.
Tip type*	Enter the pipette tip type (maximum 100 characters).

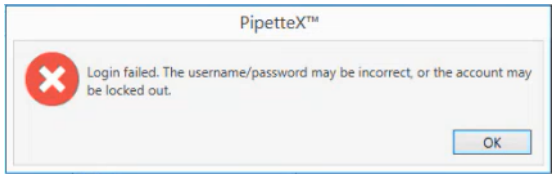
*mandatory fields

4 Click the **Next** icon.

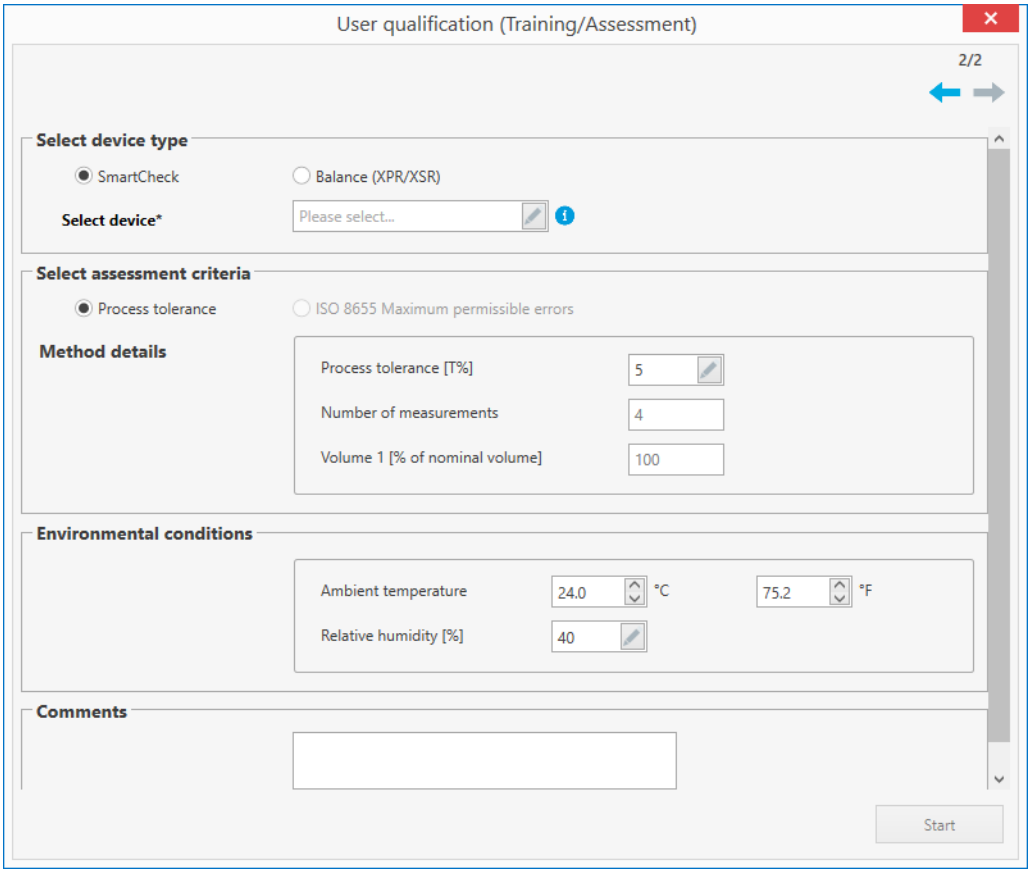
➡ If you have selected a different user, the user must authenticate using the valid login credentials.



➡ If the entered details are invalid, the following error message is displayed. Update the details and proceed.



➡ If the entered details are valid, the second page of **User qualification (Training/Assessment)** window is displayed.



5 Enter the following parameters in the second page of **User qualification (Training/Assessment)** window:

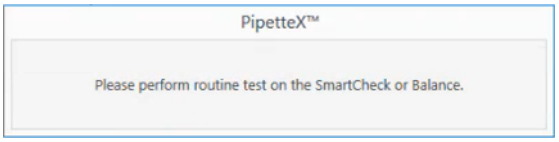
Parameter	Description
Device Selection	
Select device type	By default, **SmartCheck** is selected. Select **Balance (XPR/XSR)** if the device type is Balance.
Select device*	Click the **Edit** icon to select the device from the drop-down list or enter a keyword in the search bar to find the device. **Note** SmartChecks or Balances that are offline, blocked, connected through a gateway, connected to another client, or not approved are not listed.
Skip the initial instructions	This field is displayed if you have selected the **Select device type** as **Balance (XPR/XSR)**. By default, the skip initial instructions is disabled. To enable the skip initial instructions, you can set the toggle switch to on.
Assessment criteria	
Select assessment criteria	Select one of the following options: • **Process tolerance**: If you have selected the **Select device type** as **SmartCheck**, the assessment criteria is only process tolerance. • **ISO 8655 Maximum permissible errors**: If you have selected the **Select device type** as **Balance (XPR/XSR)**, the assessment criteria is either process tolerance or ISO 8655 Maximum permissible errors.

Parameter	Description
Method details	If you have selected the **Select device type** as **SmartCheck**, the **Select assessment criteria** is only **Process tolerance**. Fill the following parameters: • **Process tolerance [T%]**: By default, the tolerance is 5 and can be configured from 3 (minimum value) till 10 (maximum value). • **Number of measurements**: By default, the measurement value is 4 and cannot be modified. • **Volume 1 [% of nominal volume]**: By default, the volume is 100 and cannot be modified. If you have selected the **Select device type** as **Balance (XPR/XSR)** and **Select assessment criteria** as **Process tolerance**, the following parameters must be filled: • **Process tolerance [T%]**: By default, the tolerance is 5 and can be configured till 100 (maximum value). • **Number of measurements**: By default, the measurement value is 4 and can be configured from 3 (minimum value) till 10 (maximum value). • **Volume 1 [% of nominal volume]**: By default, the volume is 100 and can be configured from 10 (minimum value) till 100 (maximum value). If you have selected the **Select assessment criteria** as **ISO 8655 Maximum permissible errors**, the following parameters must be filled: • **Number of measurements**: By default, it is 10 and can be configured from 3 (minimum value) till 10 (maximum value). • **Volume 1 [% of nominal volume]**: By default, the volume is 100 and can be configured from 10 (minimum value) till 100 (maximum value). • **Volume 2 [% of nominal volume]**: By default, the volume is 0 and can be configured till 100 (maximum value). • **Volume 3 [% of nominal volume]**: By default, the volume is 0 and can be configured till 100 (maximum value).
Environmental conditions	
Ambient temperature	By default, the temperature is 24.0 °C / 75.2 °F and can be configured from 15 °C / 59 °F till 30 °C / 86 °F
Air pressure [kPa]	By default, the air pressure is 101.3 and can be configured with the following values from the drop-down: • 80 • 85 • 90 • 95 • 100 • 101.3 • 105
Relative humidity [%]	By default, the relative humidity is 40 and can be configured from 0 (minimum value) till 100 (maximum value).
Comments	Enter additional comments, if any

*mandatory fields

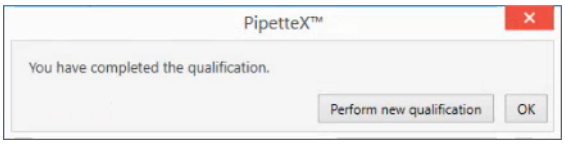
6 Click **Start**.

➡ The following pop-up is displayed until the qualification is completed.



7 Perform the routine test on the SmartCheck or Balance.

➡ The following window is displayed after completing the test.



8 Optional: click **Perform new qualification** to perform another qualification.

➡ The first page of the **User qualification (Training/Assessment)** window is displayed with details of the last qualification performed.

9 Click **OK** to close the qualification.

➡ The qualification completion certificate is generated with the overall result as PASSED, FAILED, or ABORTED.

7.4.2 View the Qualification Record

To view the qualification record, follow the steps below:

1 Go to **User management** > **User qualification**.

➡ The list of qualification records is displayed.

2 Select the record you wish to view the information.

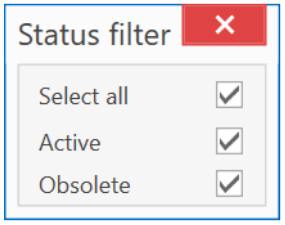
3 Click the document link under the **File** column.

➡ The document is generated in the PDF format.

Qualification Records List Options

The following table is about the options on the qualification records page.

Option	Description
	**View latest records**: Icon to display only the last performed qualification record of each user.
	**View all records**: Icon to display all the qualification records of all users. The **User** column displays the qualification status only for the latest records of each user.
	Icon to clear the filter. For more information, see the section [Filter, search, column chooser ▸ Page 140]. **Note** The filter options vary based on the type of field you have selected (text, number, or date).
	Icon to refresh the list of records.
	Icon to perform the qualification test. For more information, see the section [Perform Qualification ▸ Page 87].
	Icon to obsolete the selected records. For more information, see the section [Obsolete the Qualification Record ▸ Page 93].
	Icon to e-sign the record. For more information, see the section [e-Sign Records ▸ Page 94].
	Icon to export the records. For more information, see the section [Export Qualification Records ▸ Page 95].

Option	Description
	Icon to filter the view based on the **Status** field. You can select one or more status fields you wish to view.  For more information, see the section [Filter, search, column chooser ▸ Page 140]
	Icon to configure the user qualification settings, which are turned off by default. For more information, see [User Qualification Settings ▸ Page 93].
	Icon to add or remove columns from your view either by right-clicking any column or by clicking the column chooser icon. For more information, see the section [Filter, search, column chooser ▸ Page 140]

7.4.3 Obsolete the Qualification Record

You can remove the qualification record from PipetteX. To obsolete or delete a record, follow the steps below:

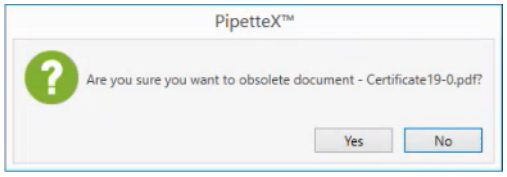
1 Go to **User management** > **User qualification**.

➡ The list of qualification records is displayed.

2 Select the record you wish to delete.

3 Click **Delete**.

➡ The following dialog box appears:



4 Click **Yes**.

➡ The qualification record is removed from PipetteX.

7.4.4 User Qualification Settings

By default, the user qualification settings are turned off. If you turn on the settings, based on the warning period, you can view the status of user qualification under the **User** column:

- The red bar indicates the user is due for qualification.
- The yellow bar indicates the user will be due for qualification in the coming days.
- The green bar indicates the user qualification is good.

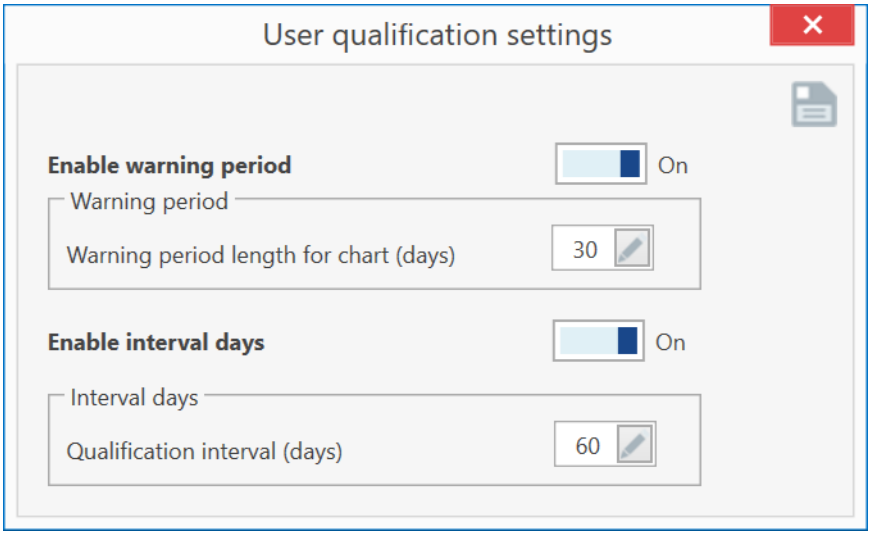
To update or turn on the settings, follow the steps below:

1 Go to **User management** > **User qualification**.

➡ The list of qualification records is displayed.

2 Click the **Settings** icon.

➡ The **User qualification settings** window is displayed.



- **Enable warning period**: click the toggle switch to set the warning period.
  - **Warning period length for chart (days)**: By default, it is 30 days and can be modified as needed.
- **Enable interval days**: click the toggle switch to set the interval days.
  - **Qualification interval (days)**: By default, it is 365 days for the next qualification and can be modified as needed.

3 Click **Save**.

➡ The **User** column displays the qualification status.

➡ The **Next qualification date** column is updated with the due date for qualification based on the test result and interval date.

7.4.5 e-Sign Records

You can sign off (both **Review** and **Approve**) your records, or someone with the proper user rights can sign off (default setting). You can enable the second-level e-sign in the policy window only if the first-level e-sign is enabled.

You must perform both first-level and second-level e-signs for the certificate.

To e-sign a record, follow the steps below:

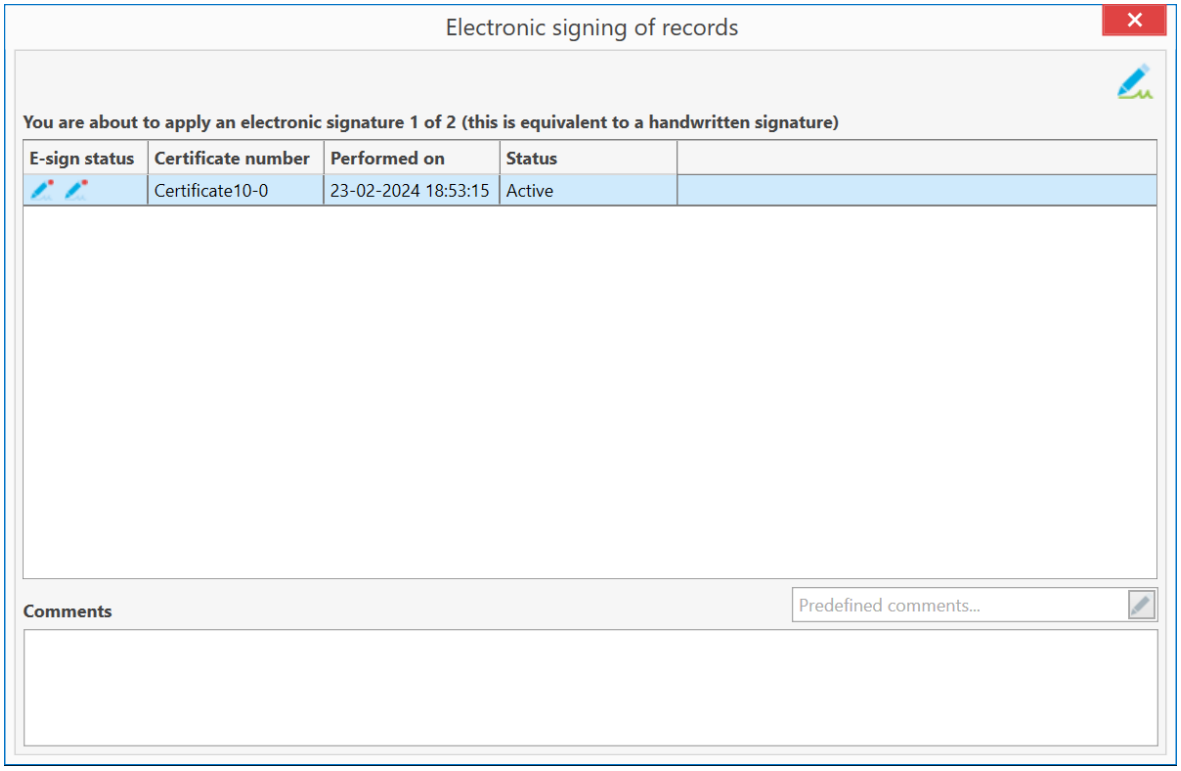
1 Go to **User management** > **User qualification**.

➡ The list of qualification records is displayed.

2 Select the record (marked with).

3 Click **e-sign**.

➡ The following window is displayed.



4 Add a comment and click **Authorize and sign**.
➡ The **User authorization** window is displayed.
5 Authenticate yourself with your PipetteX credentials if the **Self sign** check box is selected.
6 If second-level e-sign is enabled, e-sign the record using icon.
7 Authenticate yourself with your PipetteX credentials if the **Self sign** check box is selected.
➡ The record is now e-signed .

7.4.6 Export Qualification Records

You can mass export the records using the **Export** functionality.

To export the pipettes using **Export**, follow the steps below:

1 Go to **User management** > **User qualification**.
➡ The list of qualification records is displayed.
2 Click **Export**.
3 Define the location where you want to store the file in the **Save As** window.
4 Enter the **File name** and click **Save**.
5 Click to export.
➡ The list of records is exported in Excel format.
➡ The records are stored in the folder mentioned under the **File** column in the Excel file.

7.5 Methods

PipetteX allows you to test your pipettes, balances, and SmartCheck routinely. You can define one or multiple test methods per asset type and assign them to a test plan, which you can then assign to an address and an asset.

You can add policies on who can define a test method, who can e-sign a method (whether you need a 4-eye principal or not), and who can assign them to a test plan. Read the section [Test Plan Logic ▸ Page 34] to understand the logic and possibilities around methods and test plans.

Pipettes

For pipettes, you will have to define your verification setup and your way of routine testing. Read the section [Do I want to routinely test pipettes? ▸ Page 11].

SmartChecks

You can routinely test SmartChecks with a repeatability test using a 1g weight. The predefined test method can be selected under routine tests for SmartChecks in PipetteX.

Balances

You can maintain the test method for a balance in PipetteX. There is, however, no direct integration with the XPE/ XSE balance to execute the routine test on the Balance.

The overview grid shows vital information. There are more data points available through the column chooser functionality. Read the section [Filter, search, column chooser ▸ Page 140] to learn how to use the column chooser.

7.5.1 Add Methods

To assign methods to assets, you need to:

1 Set up a method in **Methods**
2 Optional: e-sign the method
3 Optional: release the mehod
4 Assign a method to a test plan
5 Assign the test plan to an address
6 Optional: release the test plan to an address
7 Push the test plan to the address(es) by clicking and selecting the addresses you want to release the test plan to

➡ PipetteX will now automatically link the test plan to the assets

You can create new methods in two ways: manually or per import (mass upload).

7.5.1.1 Add Methods manually

1 Click ⊕.
2 Define the **Method ID** and continue filling out the other fields as you work your way down through the fields.
3 Click 💾.
4 Optional: depending on your policies, you might have to e-sign the method
5 Optional: depending on your policies, you might have to release the method

Note

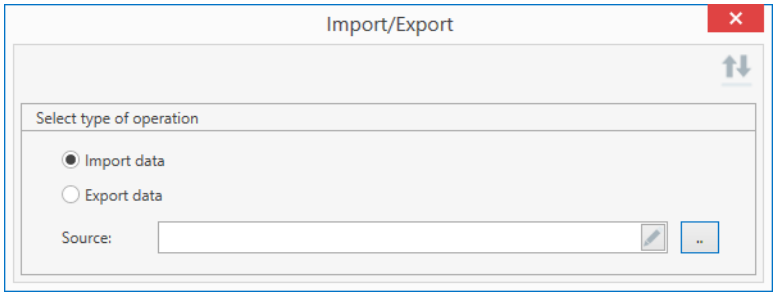
The **Method ID** must be unique, and the ID cannot be duplicated even for a method that is in the **Retired** state.

7.5.1.2 Add Methods via Import

Step 1: Create an export file, which serves as template for an upload

1 Click ⇅.
2 Select export data.
3 Select **New** in the target field.
4 Define the location where you want to store the file in the pop-up **Save-as** window and give it a file name.

5 Save the file.



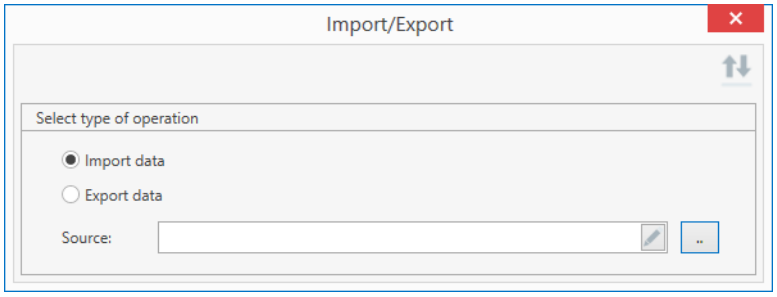
6 Click ⇅ to export.

Step 2: Edit/Complete the upload file

1 Open the newly created upload file and complete the fields in the columns in there. You cannot create new columns in the upload file.
2 Save the file.

Step 3: Import the upload file

1 Click ⇅.
2 Select import data.
3 Select the file you want to upload by clicking ... and click **Open**.



4 Click ⇅ in the top right corner to import your file.

7.5.2 e-Sign Methods

According to your policies, you must e-sign the method before releasing it. Either you can sign off (both first-level and second-level) your method, or someone with the proper user rights can sign off (default setting). You can enable the second-level e-sign in the policy window only if the first-level e-sign is enabled.

You must perform both first-level and second-level e-signs for the certificate (if the records are pending for e-sign before the upgrade of the software) and release the method only after the second-level e-sign is done.

Follow the steps below to e-sign a method:

1 Select the method (marked with ✎).
2 Click the e-sign ✎ icon.
   ➡ The e-sign window appears.
3 Add a comment and click e-sign ✎ icon.
4 Authenticate yourself with your PipetteX credentials if the **Self sign** check box is selected.
5 If second-level e-sign is enabled, e-sign the record using ✎ icon.
6 Authenticate yourself with your PipetteX credentials if the **Self sign** check box is selected.

➡ The record is now e-signed ✎ and you can release or assign it.

7.5.3 Release Methods

If per your policies you need to release a method before you can use it, you need to release the method before you can assign it to a test plan.

To do so,

1 Select the method (it will be marked)
2 Go to the record specific screen
3 Click the release icon
➡ The record is now released and can be assigned to a test plan

7.5.4 Update Methods

When you add a method, the version is automatically set to 1 and is incremented whenever you modify/change the contents.

No release policy active

When a new version is released, the previous version records' status is automatically set to **Retired** and removed from the view.

e-Sign policy active

If you have an e-Sign policy active, the old version of the method only becomes inactive after the signing of the new version.

Release policy active

If you have a release policy active, the old version of the method only becomes inactive after releasing the new version. See section [Test plan logic ▸ Page 34] on logic.

If an imported method exists already in PipetteX (same System ID), the imported one will become the new active one, and the version will be updated.

When a method is retired (by clicking the delete icon), you have to manually reassign a newer version of the method in all of the test plans in affected Pipettes/Balances/SmartChecks.

7.5.5 Export Methods

To export to a new (empty) Excel file,

1 Click , select export and then **New**.
2 You will need to provide a valid file name upon which the field names are automatically populated.
3 Click on the top right corner and the file gets saved to the destination.

To export to an existing Excel file,

1 Click on and select an existing file.
2 Click on the top right corner and the file gets saved to the destination.
➡ The application will overwrite any data in the existing file and replace it with the data as shown in PipetteX.

7.5.6 Delete Methods

You can delete methods by selecting their record and clicking . If the method is currently assigned to an active test plan, PipetteX will warn you that this is the case and that you should replace the method with another method in the test plan before deleting the method.

If you do proceed with deleting the method and had the method in an active test plan, the assets affected by the test plan now no longer have a method assigned anymore.

7.6 Test Plans

Test plans allow you to assign one or multiple routine test methods to assets in one or multiple addresses at once.

By defining policies, you can add control to who can define test plans and who can release these test plans to labs. Read section [Test plan logic ▸ Page 34] to understand the logic and possibilities around methods and test plans.

To assign test plans to assets, you will have to follow the process below:

1 Set up a new test plans in **Test plans**.
2 Assign a method to a test plan.
3 Define the interval of the method.
4 4 If you have multiple methods per test plan, define what the default method is (the default method will also become the method written to RFID tags in case of pipettes).
5 Assign the test plan to an address.
6 Save the test plan.
7 Push the test plan to the address(es) by clicking and selecting the addresses you want to release the test plan.

➡ PipetteX will not automatically link the test plan to the assets

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Read section [Filter, search, column chooser ▸ Page 140] to learn how to use the column chooser.

7.6.1 Add Test Plans

You can create a new test plan following the steps below:

1 Click the icon.
2 Define the **Test plan ID** and continue filling out the other fields as you work your way down.
3 Optional: define the **SOP #** field.
4 Click .
5 Optional: depending on your policies, you might have to release the test plan.
6 Select the test plan records you want to push to the labs and click to push the test plan live.

Note

The **Test plan ID** must be unique, and the ID cannot be duplicated even for a test plan in the **Retired** state.

7.6.2 Release Test Plans

If you have your policies set such that you need to release a test plan before you can use it, the test plan will need to be released before you can push it to the lab(s).

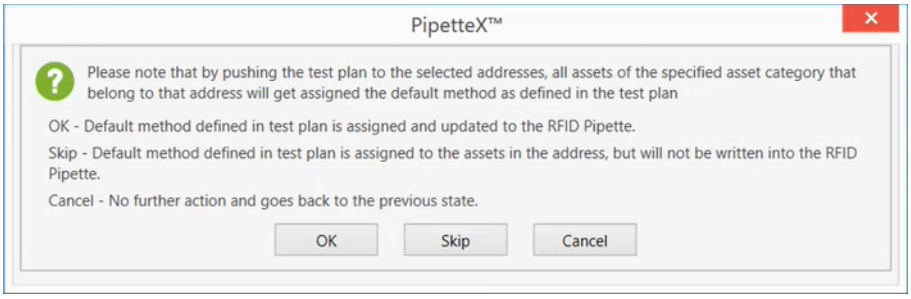
Note

- Test plan details on PipetteX are overwritten with test plans available in the pipette since the pipette is the highest priority. If there is no test plan, the test plan in PipetteX will be removed.
- In the autonomous case, the method in the pipette and PipetteX may be different. You must keep the most recently updated method in the pipette to trigger a routine test.
- In the balance tab, the method must be written to the pipette to trigger a test for an XPE/XSE balance.

To release a test plan, follow the steps below:

1 Select the test plan (it will be marked) in the **Release status** column.
2 Go to the record-specific screen or double-click the record to open the record specific screen.
3 Click the release icon .
   ➡ The record is now released with green icon and it can be pushed to a lab.
4 Select the test plan records you want to push to the labs.
5 Click **Push to address**.
   ➡ The **Push to address** window appears.
6 Select the address from **Push to address** drop-down list.
7 Click on the top right corner.

➡ The push to address confirmation window appears:



8 Select one of the following options to push the test plan live:

- **OK**
- **Skip**
- **Cancel**

Note

- When **Skip** is selected, the **Write status** of the RFID pipette should not go from **Success** to **write pending** state.

7.6.3 Update Test Plans

When you add a test plan, the version is automatically set to 1 and is incremented whenever you modify or change the contents.

No release policy active:

When a new version of a test plan is released, the previous version records is automatically set to "Retired" and removed from the view.

Release policy active

If you have a release policy active, the old version of the test plan only becomes inactive after releasing the new version. See section [Test plan logic ▸ Page 34] on logic.

When a test plan is retired (by clicking the delete icon), you have to manually reassign a test plan to the addresses.

7.6.4 Delete Test Plans

You can delete test plans by selecting their record and clicking . If the test plan is currently assigned to an address, PipetteX will warn you that this is the case and that you should replace the test plan with another test plan.

7.7 Assets (Pipettes)

The **Assets** menu allows you to view the details of manual and electronic pipettes in their respective view.

The following views are available under **Assets** menu:

- **Manual & Electronic**: Displays the list of all manual and electronic pipettes
- **Manual**: Displays the list of all manual pipettes
- **Electronic**: Displays the list of all electronic pipettes

Note

- All the functionalities of the Manual and Electronic pipette views are the same.
- The user role is same for Manual and Electronic pipettes views.

The column chooser is independent of manual and electronic pipettes, see section [Filter, search, column chooser ▸ Page 140] on how to use the column chooser.

7.7.1 Add Assets

There are several ways to add assets to the software:

7.7.1.1 Add Assets Automatically

If you have METTLER TOLEDO RFID pipettes, they will be automatically added to PipetteX the first time they are seen on a SmartStand or RFID reader. Once the asset is created, you can edit it and update the remaining fields.

7.7.1.2 Add Assets Manually

You can add an asset by clicking **Add asset**. Update the following fields in **Add pipette details** window:

- **Manufacturer**: Select one of the manufacturer from the drop-down list.
- **Model**: This field is auto-populated based on the **Manufacturer** selected.
- **Serial number**
- **Asset ID** (optional but recommended)
- **Manufacturing date**

Continue filling out the other fields as you work your way down. If you have a release policy active, you can only assign an address before releasing the asset.

7.7.1.3 Add Assets via Import

You can mass upload pipettes to the software using the **Import / Export** functionality. If you have a release policy active, it is very important to assign an address to your assets that are known to PipetteX in your import list.

To upload the pipettes using **Import / Export**, follow the steps below:

Step 1: Select the asset view (Manual or Electronic) to import the pipettes

You can import the pipette in any of the views. The pipette will be automatically imported to the corresponding view (**Manual** or **Electronic**).

Step 2: Determine whether the columns in the PipetteX asset view contain all the information you want

1 If yes, continue to step 3.

2 If no, click and select the **Custom field settings** tab. Define the **Field name** (this will be the column header in the asset view) and **Data type**. Continue doing till you have all fields created. See section [Filter, search, column chooser ▸ Page 140] for more detailed information.

Step 3: Determine whether information needs to be stored on the RFID chip of RFID-enabled pipettes

1 If no, continue to step 4.

2 If yes, remember that this information will only be stored on the RFID chip and hence is needed for RFID-enabled pipettes. Define the **Field name**, **Data type**, and **Field length**. You can create a maximum of 4 fields. The total bytes between all these fields is 126 bytes. PipetteX will limit you in creating more fields if either the maximum of 8 fields or 126 bytes limit has been reached.

Step 4: Import data

You can import data to PipetteX in two ways: directly from an existing MS-EXCEL formatted file or by using an empty upload file from PipetteX.

To perform an import from an existing Excel file, you have to manually match the columns with the field names at least for the mandatory one (with *). PipetteX automatically tries to link fields when the column names in the Excel file match the field name in the application.

Importing data directly from an existing file

You can import both Manual and Electronic pipettes using the same Excel file. By default, **Manufacturing date** is used if the field **Date placed into service** in the Excel file is empty during import.

The mapping for import is provided for the **Manual** and **Electronic** pipettes view with the field **Channels**. The following **Usage data** should be empty during import since the fields are updated when a pipette is physically detected through readers.

- Last seen (time)

- Last seen location (reader)
- Usage frequency

Step 1: Ready your file for upload

- Make sure that your file has all columns filled correctly which are marked *.

1 Click ⇅.
2 Select **Import data**.

Step 2: Upload

When you import the pipette in any of the views, the pipette is automatically imported to the corresponding view (**Manual** or **Electronic**).

1 Select the file you want to upload by clicking … and click **Open**.
2 Click ⇅ in the top right corner to upload your file.

➡ The pipettes are imported to the corresponding view.

Importing data from an empty upload file

Step 1: Create an upload file

1 Click ⇅.
2 Select **Export data**.
3 Select **New** in the target field.
4 Define the location where you want to store the file in the pop-up **Save-as** window and give it a file name.
5 Save the file.
6 Click ⇅ to export.

Step 2: Complete the upload file

1 Open the newly created upload file and complete the columns in there.
   ➡ You cannot create new columns in the upload file. If you need more columns, create them as Custom Fields in Step 1 first prior to creating a new upload file. You will also notice that you cannot add all information to the asset view by using the import file, as some fields are calculated fields, and others are interdependent fields (like researchers and labs, that will need be selected manually in the asset view once the data has been loaded to ensure data integrity).
2 Save the file.

Step 3: Import the upload file

1 Click ⇅.
2 Select **Import data**.
3 Select the file you want to upload by clicking … and click **Open**.
4 Click ⇅ on the top right corner to upload your file.

➡ Asset records that cannot be uploaded are shown to you in a log file and not added to PipetteX.

Step 4: Verify Models

1 Click 🔍 in the status bar.
2 Let the verification process against the METTLER TOLEDO database complete.

➡ Asset records that cannot be verified are marked as **N/A -...** and you must update manually.

Step 5: Manually update models

1 Select models that are identical and use bulk-edit functionality to mass-update models **or** double click a single asset and select the right model.
2 Click 💾.

Note

- The automatic model verification requires an active outbound Internet connection on your server. If this is not possible, you can verify Rainin RFID-enabled pipettes by putting them on a connected SmartStand. PipetteX imports the model name from the RFID tag and overwrites it in PipetteX.
- If you cannot find the correct model, read section [Add New Models to the Model List ▸ Page 103].
- Assets that cannot be uploaded due to various errors or omissions are logged in a file. The log files are located in the folder
  C:\Program Files (x86)\Mettler Toledo\PipetteX\ImportExportLog.
- The import/export file structure is different between older and newer versions of PipetteX. Hence, it is helpful if you export an empty Excel file and then update the file with the details to be imported.
- When you upload the pipettes using **Import**, the pipettes are visible in both Manual and Electronic views if the **Manufacturer** or **Model** field has incorrect values. After you update the necessary fields, the pipette is visible only in the corresponding view.

7.7.1.4 Add New Models to the Model List

To add a new model to the model list in PipetteX, click on **Help** in the menu ribbon and select **Support**.

On the web page that appears, you can request a new model to be added to the software. You have to provide further model information on the request form and will be notified when the model request has been accepted. The model will be added to the model list. If the model request has been accepted, the information will automatically be added to the model list in PipetteX. This requires an active Internet connection for the business server.

7.7.2 Release Assets

According to your policies, you need to release an asset before you can use it. After you've added the record to PipetteX, you can only assign the asset to an address, save it, and follow the steps below to release it before you can update any other information on the record.

1 Select the asset (it will be marked)
2 Go to the record specifics screen.
3 Click the release icon .

➡ The record is now released and can be used.

7.7.3 Edit Assets

There are two ways to edit assets in PipetteX: through individual editing or bulk editing. In either case, you have to make sure that the pipette structure has been updated before editing the assets. If you have altered the pipette data structure in PipetteX (e.g., by defining custom fields for the RFID tag or the PipetteX database record – see section [Custom Fields ▸ Page 141]) and/or if you modify asset data fields of a METTLER TOLEDO RFID pipette, you will be prompted to agree that the pipette data structure on the RFID tag will be overwritten. This will happen the first time only. Bulk editing cannot be used for this.

To update the data structure of the pipette, double-click on an asset to view/change the contents of the asset. Select **I agree** and click **Update**.

Note

- If you have an RFID-enabled pipette, make sure you have the pipette on a SmartStand when clicking "Update" to ensure that the format of the RFID tag gets updated. With non-updated RFID tags, you might run the risk that data and/or structure do not get updated correctly, which could lead to data conflicts in the future between PipetteX and the RFID tag.
- Only the privileged user is allowed to edit or update the **Manufacturer** and **Model number** of a validated pipette (Manual and Electronic).

7.7.3.1 Edit assets: individual

Once you have successfully loaded the asset data into the PipetteX database you can start filling in the data in the asset view. Please note that if you have a release policy active, you first have to assign the record to an address and release the record before you can edit it.

Add QuickCheck Method

To assign a QuickCheck method to the Pipette, see section [Methods ▸ Page 95].

Add user

Assign the pipettes to users.

Add address

Assign the pipettes to an address.

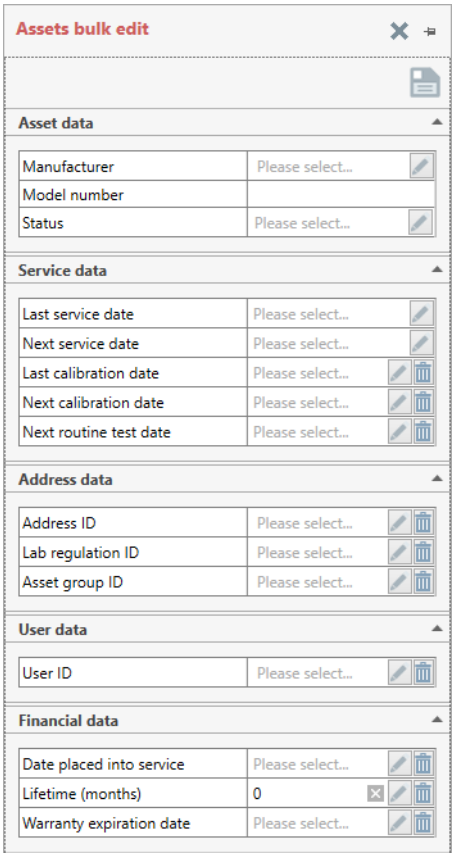
Add Smarttag

You can use a METTLER TOLEDO Smarttag to support the pipette verification process for non-RFID Pipettes. See section [Smart Tags ▸ Page 105] on how to set this up.

7.7.3.2 Edit assets: bulk

You can use the Bulk edit functionality by selecting multiple pipettes in the asset view and clicking on the icon. The Asset Bulk Edit window will appear, where you can set values for all the assets selected at the same time. You can also delete values for all of the selected assets at once, except for the last and next service dates.

- Manufacturer and model numbers can be bulk edited.
- The manufacturer and model number of the RFID pipettes cannot be bulk edited by the Admin user.
- The manufacturer and model number in the bulk edit screen can only be cleared or edited for non-RFID pipettes. If the selected pipette is a non-RFID pipette or an invalid pipette or a combination of both, then it is not possible to edit any of the details.



7.7.4 Export Assets

You can mass export pipettes from PipetteX using the **Import / Export** functionality. You can only export manual pipettes listed under **Manual** view. Similarly, you can only export electronic pipettes under **Electronic** view.

To export the pipettes using **Import / Export**, follow the steps below:

1 Select **Assets** > **Manual & Electronic** to export both manual and electronic pipettes.
or
Select **Assets** > **Manual** to export the manual pipettes.
or
Select **Assets** > **Electronic** to export the electronic pipettes.

2 Select the pipettes you want to export.

3 Click ••• and select **Import / Export**

4 Select **Export data**.

5 Select **New** in the target field.

6 Define the location where you want to store the file in the **Save As** window.

7 Enter the **File name** and click **Save**.

8 Click to export.

Note

- The auto export operation of pipette via **Scheduler** exports both manual and electronic pipettes in a single file.
- The user role is same for the Manual and Electronic pipettes views.

7.7.5 SmartTags

A SmartTag can be affixed to your pipettes to automate the pipette routine test process when using a SmartCheck or METTLER TOLEDO XPE or XSE analytical balance. There are small differences between SmartTag and the traditional Rainin RFID tag, especially with respect to what data does get stored on the tag.

	Smart Tag	XLS(+) RFID tag
Pipette serial number	•	•
Pipette type	•	•
Nominal volume	•	•
Factory date		•
Last Service date		•
Next Service date		•
Last Calibration date		•
Next Calibration date	•	•
Next QuickCheck date	•	•
QuickCheck method	•	•
QuickCheck method version	•	•
Asset ID		•

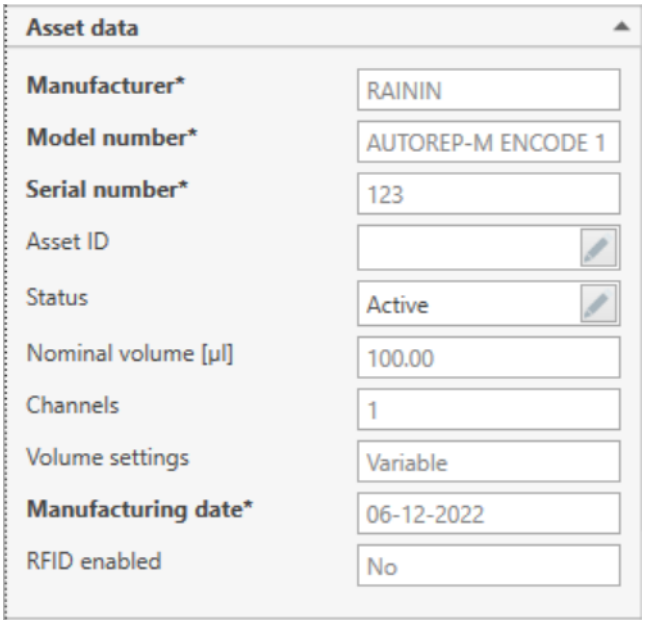
To write data to a SmartTag, you need an EasyScan Flex RFID reader connected to your PC. Read the Installation guide for more details on which RFID reader you will need. Please note that a SmartTag cannot be read by a SmartStand.

7.7.5.1 Link SmartTags

You can link a SmartTag to a pipette (manual and electronic) only when the pipette model and manufacturer is valid. To link a SmartTag, follow the steps below:

1 Select an asset from the Assets view and go to the **Edit Asset** page.

2 Click on in the top right corner.



3 Scan an empty SmartTag.

➡ PipetteX prompts the user with a message: **Do you want to assign the SmartTag to this pipette?**.

4 Click **Yes** to link and write the method and pipette's unique details to the SmartTag.

7.7.5.2 Unlink SmartTags

If a SmartTag gets torn/damaged or is not functioning as expected, then the SmartTag should be unlinked from the pipette before affixing a new SmartTag to the pipette. You can unlink the SmartTag from the **Asset** page.

1 Select a pipette that needs to be unlinked from the SmartTag.

2 Click and scan a new (empty) SmartTag when prompted.

➡ PipetteX prompts the user with a message to unlink the existing SmartTag from the pipette.

3 Click **Yes** to remove the old SmartTag and link the new one.

7.7.5.3 Update methods to SmartTags

If you change the method parameters for a method that is already written to a SmartTag either through PipetteX or through any external application (e.g. Calibry), you have to manually update the method details to the SmartTag using the following steps:

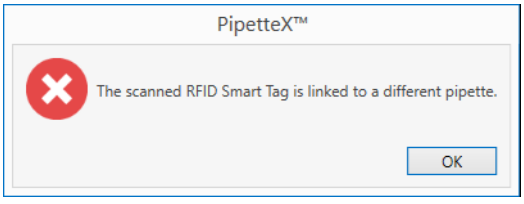
1 Select an asset and go to the **Edit Asset** page.

2 Click and scan the SmartTag when prompted.

➡ You will be prompted with options from which you can choose the appropriate one.

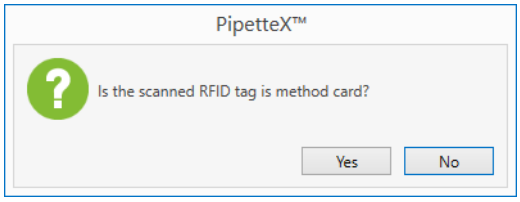
7.7.5.4 Errors

If you try to link a SmartTag that is already linked to another pipette, you will see the following error:



You can only link a new (empty) tag to a pipette.

If you scan a SmartTag in any other screens apart from the Asset Edit view, you will see the following message:



Select **No** if it is a SmartTag, or **Yes** to add a Method Card.

7.7.6 Routine Test a Pipette

You can routine test a pipette in different ways. Read the section [Do I want to routinely test my pipettes? ▸ Page 11] to define the method that best fits your purpose. Depending on your chosen method, you now have a choice of hardware (SmartCheck or XPE/XSE/XPR/XSR balance), which you can configure in different ways.

Based on your setup, your point of starting the routine test for the pipette is different. You can perform a routine test for a pipette with a channel that is less than or equal to 16. Read below on how to perform the routine test.

Note

- Before starting the routine test, you have to assign a test plan with a pipette routine method to the pipette. Read the section [Test plan logic ▸ Page 34] on how to do this.

Channel selection

When you trigger a routine test for a pipette via SmartCheck or Balance (XSE, XPE, XPR, and XSR), you are allowed to select the channel (1, 4, 5, 6, 8, 12, 16) for which the routine test is performed. The channel details are captured in the routine test report.

- Connected case: you cannot edit the channel details in the certificate window if you skip the channel selection during routine tests. You can trigger routine or repeatability tests from the following windows:
  - **Asset**
  - **View / attach documents**
- Autonomous case: you can select or edit the channel details in the certificate window only once before the certificate is E-signed.

Note

- The channel selection is not mandatory.
- The channel selection is applicable only for multichannel pipettes.

7.7.6.1 Pipette routine test: SmartCheck standalone case

The routine test begins at the SmartCheck and does not require an active connection to PipetteX. Read the manual of SmartCheck for information on how to perform the pipette routine test.

Note

- Any results from tests performed whilst the SmartCheck is not connected to PipetteX will not be captured and will be lost.

7.7.6.2 Pipette routine test: SmartCheck connected case

The routine test begins with PipetteX.

Prerequisites:

- Starting a routine test requires that you have a test method and test plan assigned to the pipette. Read section [Test plan logic ▸ Page 34] on how to assign methods and test plans.
- Ensure that the SmartCheck is connected to the PC, the connection is active, and the SmartCheck is in connected mode.

Workflow:

1 Select the pipette record and click on the document view icon .

2 If you have the correct user right permissions you can now click on .

3 Prepare your SmartCheck for a routine test. Read the manual of SmartCheck how to perform the pipette routine test.

➡ After the test is completed, the result will be automatically captured in PipetteX.

7.7.6.3 Pipette routine test: SmartCheck autonomous case

The routine test begins at the RFID reader that is connected to the same gateway as the SmartCheck.

Prerequisites:

- Starting a routine test requires that you have a test method and test plan assigned to the pipette. Read section [Test plan logic ▸ Page 34] on how to assign methods and test plans.
- Ensure that the SmartCheck is connected to the Silex or virtual gateway, the connection for both the SmartCheck and EasyScan RFID reader is active, and the SmartCheck is in autonomous mode.
- Ensure you have an RFID-enabled pipette, either through the built-in Rainin RFID tag or by applying a SmartTag. Read section [SmartTags ▸ Page 105] how to apply a SmartTag to a pipette.

Workflow

Without user identification:

1 Hold the pipette over the EasyScan RFID reader. Note that the SmartCheck will go into routine test mode.
2 Perform the test.
   ➡ The result will be automatically captured in PipetteX.

➡ The SmartCheck will return to its previous state.

With user identification:

■ **Require user identification** must be enabled under **Settings** > **Policies**.

1 Scan the user card over the EasyScan RFID reader. Note that the user card must be linked to the user.
2 Hold the pipette over the EasyScan RFID reader. Note that the SmartCheck will go into routine test mode.
3 Perform the test.
   ➡ The result will be automatically captured in PipetteX.

➡ The SmartCheck will return to its previous state.

Note

- A method card cannot be used for routine testing pipettes.
- The scanned user details is automatically captured in the certificate under the **Performed by** field which cannot be edited.

7.7.6.4 Pipette routine test: XPE/XSE Analytical balance

The routine test begins at the RFID reader connected to the XPE/XSE balance.

Prerequisites:

- Starting a routine test requires that you have a test method and test plan assigned to the pipette. Read section [Test plan logic ▸ Page 34] on how to assign methods and test plans.
- Ensure that the XPE/XSE balance is connected to PipetteX and that the connection is active.
- Ensure you have an RFID-enabled pipette, either through the built-in Rainin RFID tag or by applying a SmartTag. Read section [SmartTags ▸ Page 105] for information on how to apply a SmartTag to a pipette. Alternatively, you can use a method card.

Workflow RFID enabled pipette:

1 Open the pipette QuickCheck application on the balance.
2 Hold the pipette over the EasyScan RFID reader.
   ➡ The QuickCheck application will open and prompts you to enter environmental data
3 Follow the wizard and perform the test.
4 In the end, hit **Print Result**, which will send the result to PipetteX.

➡ The result will be automatically captured in PipetteX.

➡ If the test has been passed, the balance will prompt you to hold the pipette over the RFID reader to update the next Routine Test date on the RFID tag.

Workflow method card:

1 Open the pipette QuickCheck application on the balance.

2 Hold the method card over the EasyScan RFID reader.

➡ Note that the QuickCheck application will open and will prompt you to enter the serial number of the pipette. The serial number will be the key identifier for PipetteX to assign the routine test report to the right asset record.

3 Follow the wizard and perform the test.

4 In the end, hit **Print Result**, which will send the result to PipetteX.

➡ The result will be automatically captured in PipetteX.

Note

- If writing to the RFID tag fails at the balance, do not worry. PipetteX will have captured the date and updated the date accordingly in the software. If you want to sync the RFID tag date, put it on an RFID reader that is connected to PipetteX. PipetteX will sync the new date to the RFID tag.

7.7.6.5 Pipette routine test: XPR/XSR Analytical balance

Trigger the routine test from PipetteX. If needed, you can skip the instruction and information on the Balance by switching the **Skip the initial instructions** toggle switch to ON before triggering the routine test from PipetteX.

Note

- By default, the skip option is deselected, and the selection is user-specific (remembered for the user once **Skip the initial instructions** is enabled).
- The option **Skip the initial instructions** can be enabled only for XPR/XSR Analytical balance.

Softkeys

You must use softkeys for navigating to the instructions or the home screen. Refer the images in step 5 of the Workflow.

Icon	Name	Action
	Door	Open and close the door.
	Back	Navigate to the previous instruction.
	Front	Navigate to the next instruction.
	Home	Navigate to the home screen.
	Add	Add to protocol.

Prerequisites

- Starting a routine test requires that you have a test method and test plan assigned to the pipette. Read the section [Test plan logic ▸ Page 34] on assigning methods and test plans.
- Ensure the balance is connected to the PC via Ethernet or USB, the connection is active, and the balance is idle. Also, ensure the General weighing application is selected in the balance.
- If you set the **Standby** mode (**Settings** > **Balance**) to **Active**, setting the **Wait time** to 60 minutes is recommended.

Workflow

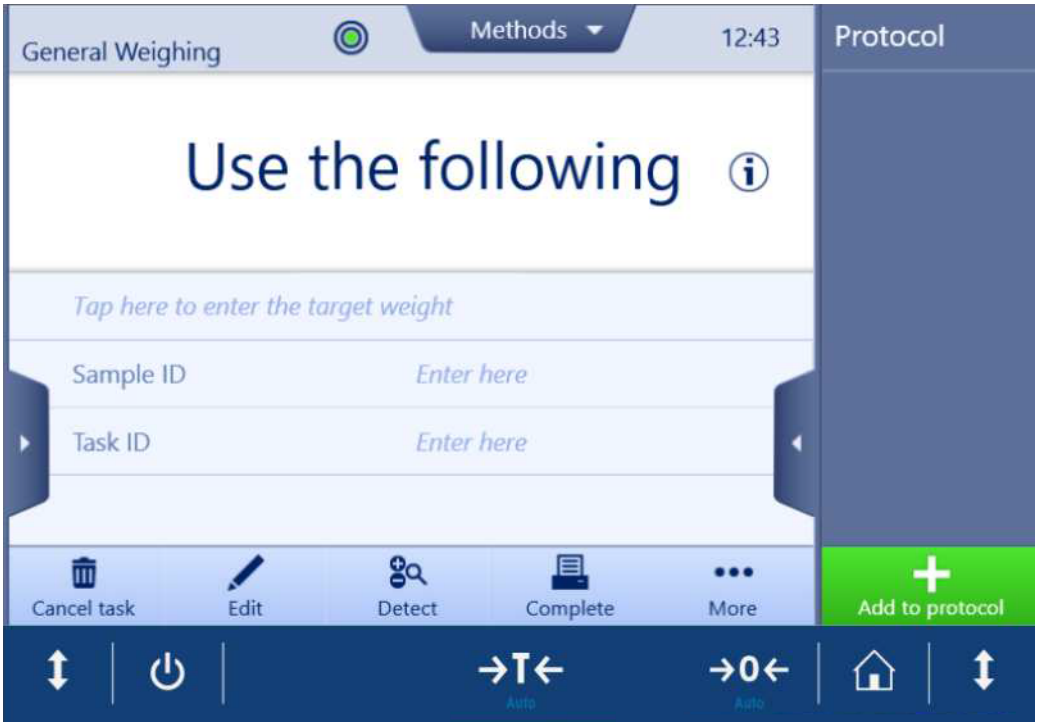
1 Select the pipette record and click on the document view icon .

2 If you have the correct user permissions, you can now click on .

3 Prepare your balance for a routine test. If Evaporation trap is enabled in **Methods**, a pop-up will appear so you can set the environmental factors. Otherwise, it will trigger the routine test in balance.

4 You will hear a beep sound from the balance to indicate that the routine test is triggered.

5 Follow the instructions displayed in the balance about the performer and use softkeys to navigate as shown in the images below:



6 Press the →0← button to proceed with the routine test and follow the instruction displayed in the balance.

7 Press the button to complete the routine test.

➡ After the test is completed, the result is captured automatically in PipetteX.

Note

- You can use the button to cancel or abort the routine test.
- The routine test result is Aborted in the following cases:
  - You press the button after the test has started.
  - You start the test, and the time elapsed is 60 minutes before the completion of the test.
  - Balance gets disconnected during the test and doesn't reconnect within a minute.
  - Due to an error during measurement.

7.7.7 Documents

You can add documents to pipettes, SmartChecks, and balances.

- **Calibration certificates:**
  You can add the certificates either manually or automatically. To find out about how to automatically add these documents read section [Automation logic ▸ Page 28].
- **Routine test reports:**
  You can add the test reports either manually or automatically. To find out about how to automatically add these documents read section [Automation logic ▸ Page 28].
- **SOPs and other documents:**
  These can be manually added to asset records.

To enter the document view in PipetteX, select a record and click on to enter the document view.

The overview grid shows key information. Note that there are more data points available through the column chooser functionality. Read section [Filter, search, and column chooser ▸ Page 140] to learn how to use the column chooser.

7.7.7.1 Add documents

The updating of service/calibration as well as routine test dates and documents can be automated for pipettes and SmartChecks. Read section [Automation logic ▸ Page 28] to learn how this works and what can be automated.

You can add your calibration/service certificates as well as pipette verification reports manually from the button from the View / attach certificates window.

You can add the documents in the following formats:

- Excel
- Word
- PPT
- PDF
- Images (JPEG, PNG)
- txt

Note

- There is no change in the existing documents attached. The above formats are applicable only to the new document attachment.

You can add one or more certificates and classify their types along with Next Service, Calibration dates, "As found" and "As Left" calibration result along with comments.

Note

- When you select multiple certificates, the details you enter will be applied to all the certificates you have added.
- There is a restriction of 10 MB per file. If the file size exceeds this limit, a warning message will be displayed.

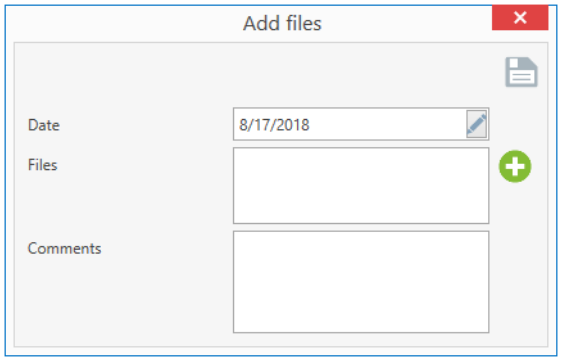
7.7.7.2 Assigning orphaned document records

When PipetteX cannot automatically link the certificates to your assets, it is marked as Non-Labelled Certificates. You can manually link those certificates by clicking on the button from the Asset view and assigning the certificate to the corresponding pipette. The same applies to QuickCheck reports coming from a networked XPE/XSE analytical balance that cannot be assigned automatically to a pipette.

SmartTag only stores model numbers with 15 characters. If the model number is more than 15 characters, it automatically saves the certificate in an orphan folder.

7.7.7.3 SOP and other Documents

In addition to the certificates, you can add any SOP documents to your assets from the "Files" tab and click on the image. You can add one or more files at once and add necessary comments to them for easy identification.



7.7.7.4 e-sign document

According to your policies, you must e-sign a document record before it becomes visible to other users of PipetteX. You can sign off (both first-level and second-level) your document, or someone with the proper user rights can sign off (default setting).

Note

- By default, you can perform **Review** and **Approve**.
- You can enable the second-level e-sign in the policy window only if the first-level e-sign is enabled. The e-sign details are captured in the document window, and the generated certificates.

Follow the steps below to e-sign a document:

1 Select the record (it will be marked)
2 Click the e-sign icon.
3 Add a comment and click e-sign icon.
4 If second-level e-sign is enabled, e-sign the document using icon.
5 Authenticate yourself with your PipetteX credentials

➡ The record is now e-signed , and you can proceed to release or assign it.

7.7.7.5 Obsolete Document

You can make a document record obsolete if you have the permissions to do so. Select the record and click . Once you select obsolete, the document will move to obsolete status, and this is recorded in the audit trail.

Note

Navigation: Settings > Settings (with policies) > Policies > Change policy

By default, the **Require reason for change** is disabled. You must enable **Require reason for change** to select a reason from the drop-down list in the **Reason** window.

7.7.8 Export and Print Records

7.7.8.1 Export records

You can automate exporting asset records by using the scheduler functionality. Read section [Scheduler ▸ Page 123] on how to set this up.

You can manually export the asset records by clicking Export from the document view. The data is exported to an Excel file.

7.7.8.2 Print records

You can print each asset record in PDF. Select the record you need, and click print options. You will then have the possibility to automatically include the certificate history of the asset. Only PDF files from the certificate history will be included in the PDF that is created as the print record.

7.7.9 Track Pipettes

7.7.9.1 Usage frequency and out-of-spec usage

If you click the hyperlink in the Usage Frequency column, a pop-up window opens that shows how often the pipette was read, and what the calibration status of the pipette was when it was used. Every time a pipette is taken off the stand or put back on the stand and the pipette is past due its next service date or its next calibration date, the event will be marked red in the log. This log can be downloaded by clicking the export icon.

7.7.9.2 Pipette zoning

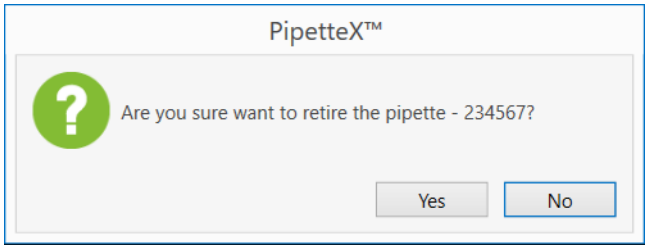
For critical workstations or critical labs where mixing pipettes between labs should be avoided at all times, you can use the zoning functionality of PipetteX. This only works for Rainin RFID-enabled pipettes, not for Smart Tag pipettes. PipetteX compares the location of the pipette to the location of the SmartStand and then flags the pipette if both locations do not match. In the column "Current location" the cell will turn red if there is a mismatch between locations.

To set the zoning functionality up, you only need to assign an address to the SmartStand and an address to the pipette.

7.7.10 Delete Assets

You can "Retire" an asset by clicking . If the asset is set as **Retired**, the asset is not displayed in the Asset view. You can delete or retire more than one pipette at a time from the **Asset overview** screen.

If you retire the asset, it is removed from the view, and you cannot edit the retired asset. If you add the retired pipette again at a later stage, PipetteX activates the old record again and continues to build on the old record.



7.8 Method Cards

PipetteX supports Rainin Method Cards for the use cases below:

- **Pipette routine testing:** this only works in conjunction with XPE balance, not with SmartCheck.
- **Routine testing SmartCheck:** to trigger the routine test of SmartCheck in connected or autonomous mode, you will need to program a Method Card with a SmartCheck Routine Test.
- **User card:** you need to link a Method Card to the user which is used as user identification during the routine test of pipette in the autonomous mode.

There are small differences between the Method Card and the traditional Rainin RFID tag, with respect to what data is stored on the tag.

	Method card	XLS(+) RFID tag
Pipette serial number		•
Pipette type		•
Nominal volume	•	•
Factory date		•
Last Service date		•
Next Service date		•
Last Calibration date		•
Next Calibration date		•
Next QuickCheck date		•
Routine test method	•	•
Routine test method version	•	•
Asset ID		•

The overview grid shows key information. Note that there are more data points available through the column chooser functionality. Read section [Filter, search, column chooser ▸ Page 140] to learn how to use the column chooser.

7.8.1 Add Method Cards

Under Method Cards, you manage method cards in your lab and assign a routine test method to a card. To do so:

1 Hold a Method Card over the EasyScan Flex Reader (this is the only way to add a method card to PipetteX).
2 Once the Method Card is recognized and added to the list, select the routine test method.
3 Type in the Asset ID of the card.
4 Assign an address to the card.

7.8.2 Add Method to Method Cards

To store a routine test onto a new method card:

1 Hold the empty method card onto the EasyScan Flex RFID reader.
2 A new entry with a unique RFID UID is added.
3 Double-click on the record and select the appropriate method in the routine test field (this requires you to have at least an active test plan defined in PipetteX).
4 Save the contents to the method card.
5 PipetteX will prompt you to scan the method card on the RFID reader to write the content to the card.

7.8.3 Edit Method Cards

Double-click on a method card to view or change the content of the method card.

7.8.4 Erase Content of Method Cards

To erase the content (routine test method) from a card, double click on a method card to see its content and then click on  at the top right. Hold the method card over the reader. This action will clear the content of the method cards.

7.8.5 Remove Method Cards

You can "Retire" a method card by clicking . The card will be removed from the view. Take utmost caution before deleting an asset as you will not be able to recover the asset record once deleted. The audit trail will capture all data of the record upon deletion, but you will not have access to the individual record anymore. Please note that when the same pipette gets re-added to PipetteX, PipetteX will reactivate the old data record and continue adding to this data record.

7.9 Calibration and Verification

PipetteX will notify you when you receive new documents on the Asset view page. A indicates that a new document is available, and the icon turns back to after you view the document.

The Event status column in the asset view page indicates the last known pipette status.

- indicates calibration and verification have been successfully passed.
- indicates the failure during pipette verification, as found or as-left failure during calibration.

7.10 LabX API Integration

LabX integration enables the automatic syncing of certificates generated in the LabX application to respective pipettes present in the PipetteX application.

There are two ways in which the certificate can be mapped or added to the PipetteX application.

1 Using both task-based events and timer-based sync mechanisms (SystemIntegrationService).
2 Using timer-based sync mechanism (BasicSystemIntegrationService).

General Preconditions

1 LabX version shall be **v10** or higher.
2 LabX license must be **activated**, and the corresponding service is running.
3 The LabX system user must be created in LabX.
4 The LabX system user must be defined with appropriate Admin rights.
5 The LabX system user must create the Pipette Check Method that is compatible with LabX-PipetteX integration. The name of the Pipette Check Method must contain "(PipetteX)".

Note

- The system integration option license should be enabled in LabX.

LabX workflow

LabX user cannot define the Method, follow the steps below to define the Method:

1 Add the pipette in PipetteX.
2 Assign the TestPlan [PT or ISO].
3 Perform the routine test.

Note

- LabX does not support RFID pipettes.

7.10.1 LabX Integration Configuration

Config Editable fields

The config that is needed from pipette side is as follows.

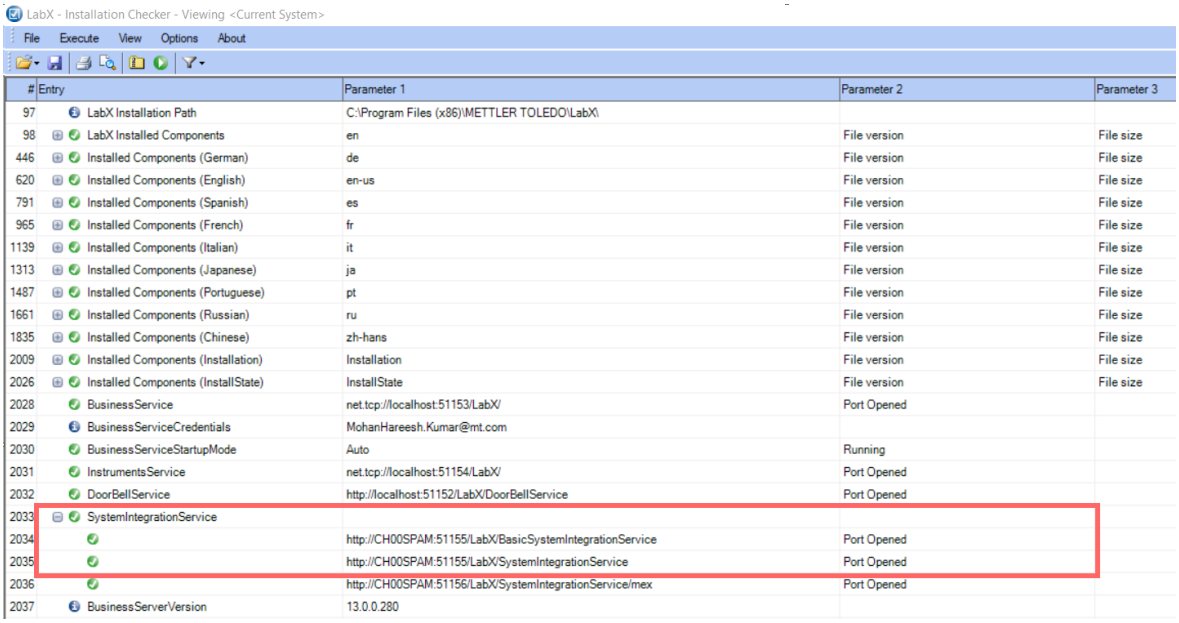
1. **LabX instance name**: any user-friendly name to identify the LabX instance
2. **Service URL**: LabX integration service URL. The service URL can be taken from LABX installation checker. Follow the steps below to check the service URL:
   - After you launch the LABX installation checker, navigate to **Applications**.
   - Under **Applications**, click **SystemIntegrationService**.
   - Select any one of the following URLs under **Parameter 1** column:

Basic System Integration Service: use this URL for the interval based certificate retrival. For more information, refer [Setting auto-sync and default interval value ▸ Page 119].

System Integration Service: use this URL for the event based certificate retrival.

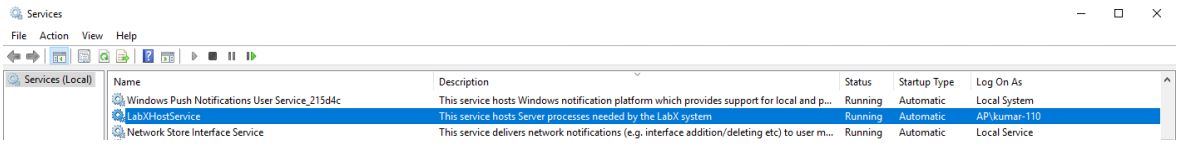
Note

If the port under **Parameter 2** column is **Port Closed**, the **System Integration Service** license is not available.

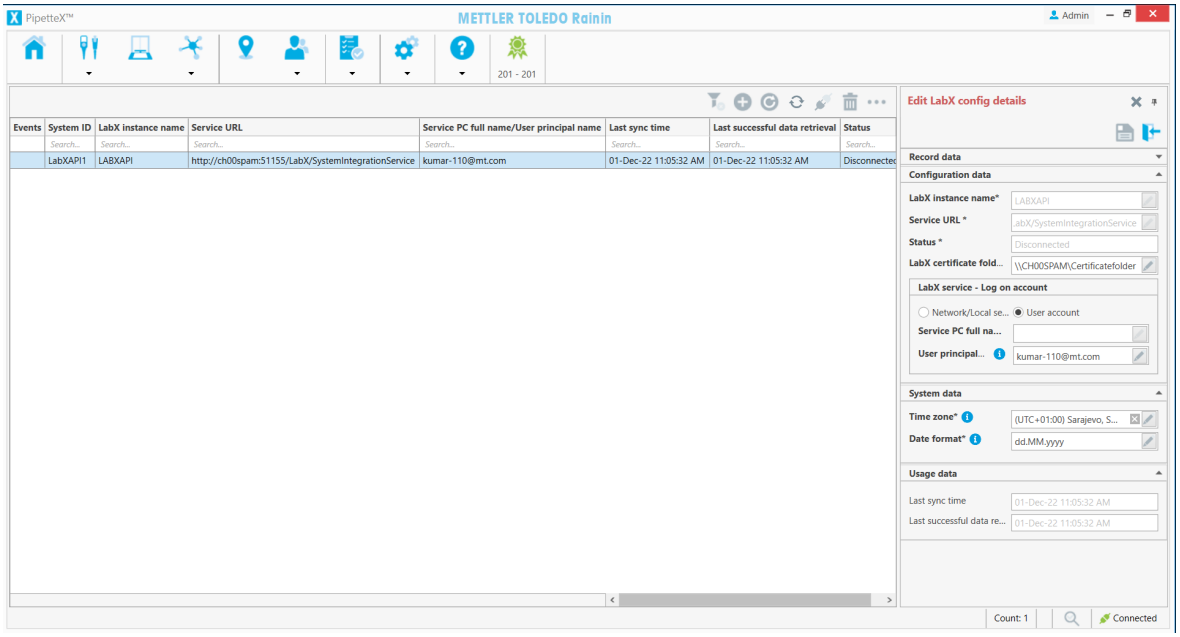


#	Entry	Parameter 1	Parameter 2	Parameter 3
97	LabX Installation Path	C:\Program Files (x86)\METTLER TOLEDO\LabX\		
98	LabX Installed Components	en	File version	File size
446	Installed Components (German)	de	File version	File size
620	Installed Components (English)	en-us	File version	File size
791	Installed Components (Spanish)	es	File version	File size
965	Installed Components (French)	fr	File version	File size
1139	Installed Components (Italian)	it	File version	File size
1313	Installed Components (Japanese)	ja	File version	File size
1487	Installed Components (Portuguese)	pt	File version	File size
1661	Installed Components (Russian)	ru	File version	File size
1835	Installed Components (Chinese)	zh-hans	File version	File size
2009	Installed Components (Installation)	Installation	File version	File size
2026	Installed Components (InstallState)	InstallState	File version	File size
2028	BusinessService	net.tcp://localhost:51153/LabX/	Port Opened	
2029	BusinessServiceCredentials	MohanHareesh.Kumar@mt.com		
2030	BusinessServiceStartupMode	Auto	Running	
2031	InstrumentsService	net.tcp://localhost:51154/LabX/	Port Opened	
2032	DoorBellService	http://localhost:51152/LabX/DoorBellService	Port Opened	
2033	SystemIntegrationService			
2034		http://CH00SPAM:51155/LabX/BasicSystemIntegrationService	Port Opened	
2035		http://CH00SPAM:51155/LabX/SystemIntegrationService	Port Opened	
2036		http://CH00SPAM:51156/LabX/SystemIntegrationService/mex	Port Opened	
2037	BusinessServerVersion	13.0.0.280		

3. **Status**: this field is auto-generated based on the connection between PipetteX and LabX instance.
4. **LabX certificate folder name**: the path that is specified in the LabX method should be provided here for retrieving the certificate. Ensure the folder path is accessible, and give required permission to the service logged-on user. e.g, C:\Users\Public\METTLER TOLEDO\LabX certificate.
5. **LabX service - Log on account**: the account details from **LabXHostService** are used. Select one of the following options:
   Network/Local service: if this option is selected, provide the **Service PC full name**.
   User account: if this option is selected, provide the **User principal name**.
   Computer full name: name of the system where LabX service is installed.
   The following image shows that **LabX service - Log on account** is configured using **User account** details:



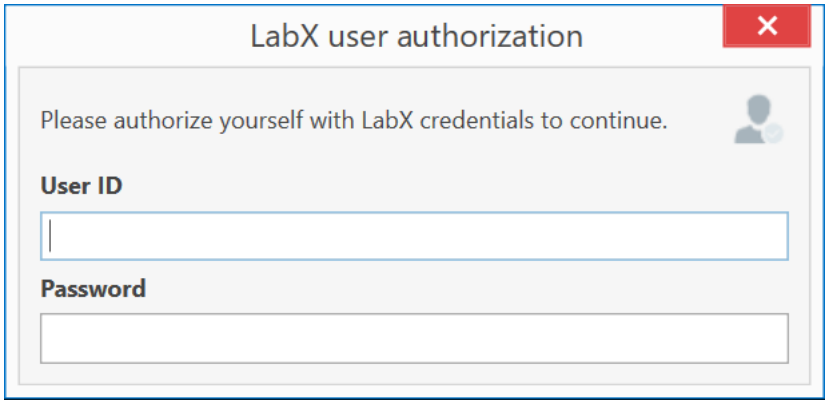
6. **Time Zone**: the time zone of machine where LabX service is running.
7. **Date format**: the date format that is specified for dates in LabX Methods.



Config Non editable fields

1. **Created On**: the time stamp when the config was created.
2. **Created By**: the username who created the config. This is the PipetteX logged-in user.
3. **System ID**: LabXAPI ID used as tracking ID.
4. **Service Status**: provides the service status (Connected, Disconnected, Reconnecting, Connection Failed, Retired, Not Connected – default service status).
5. **Last sync time**: indicates the last sync time. This will be mostly auto-sync or manual sync time.
6. **Last successful data retrieval**: indicates the time when latest certificate was retrieved.

7.10.2 Testing connection and adding LabX config to database

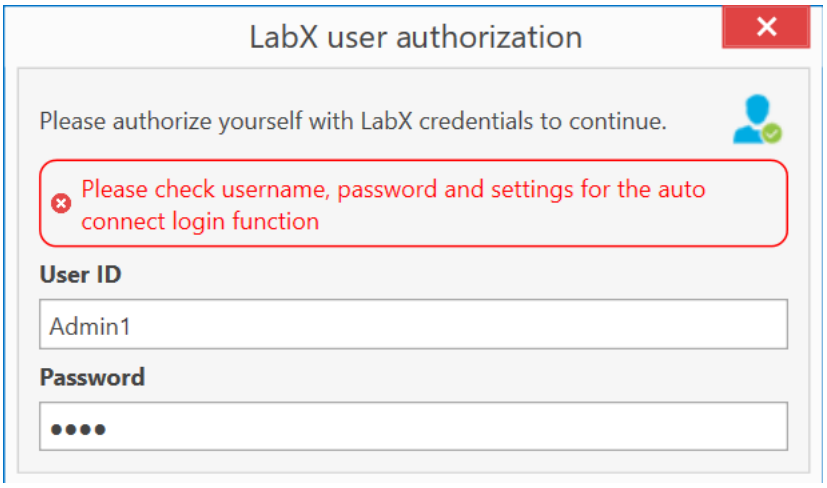


1. A test connection is performed before adding the config details to the database. A test connection is to test if the given service config details are valid. Only if a test connection is passed, the config is added to the database.
2. The user name and password used for the test connection are saved in the database as encrypted, and the same is used for further connection operation.
3. Before a test connection is performed, all the fields must be valid. The test connection button is disabled if any validation fails.

Note

Any password change in LabX should be updated in PipetteX.

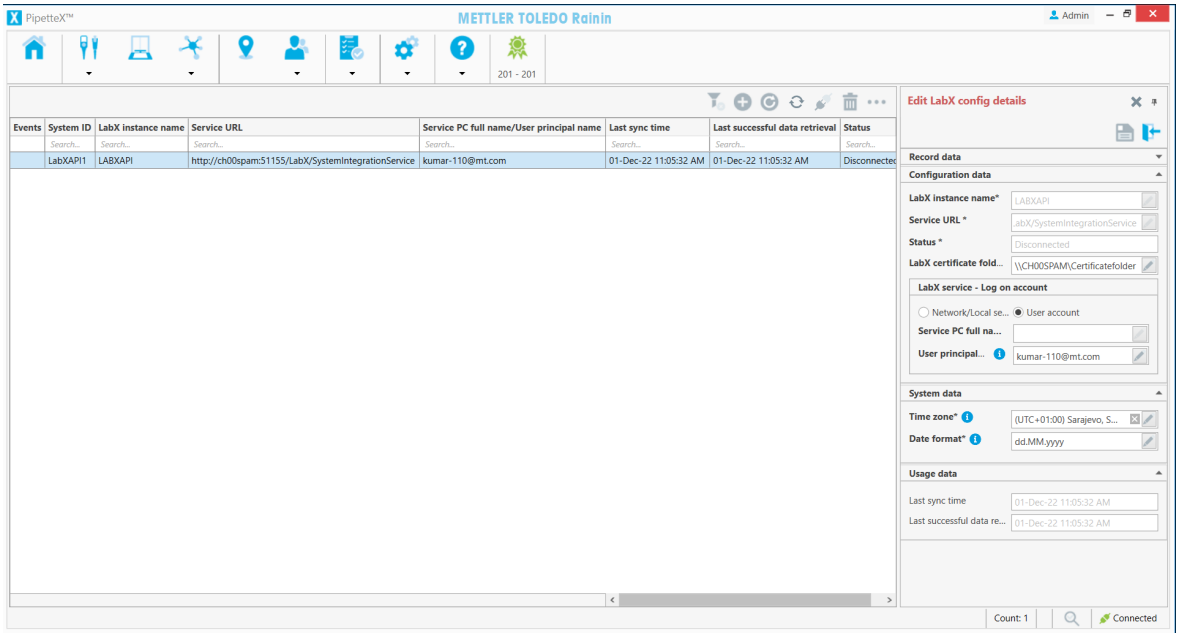
Authorization Failure Message Window



7.10.3 Editing Configuration

1. The user shall be allowed to edit the LabX API configuration.
2. The user shall be allowed to edit only after disconnecting the connection.
3. The user shall be allowed to edit only the below fields:
   - **Folder path**
   - **Time zone**: the time zone must be provided correctly otherwise auto sync and manual sync may not work as expected. If the time zone is not correct, then retrieving data by date-time range may result in a mismatch with the time in the LabX machine and so, might behave differently.
   - **Date format**: when editing the date, it will be stored in the database as a chain of all the previous data formats that have been given for this instance. This is done to support the certificate that may have been generated with the previous date format before the new change.
   - **LabX service - Log on account**: You can edit information for this field. For more information, see section [LabX Integration Configuration ▸ Page 115].
   - You cannot perform bulk editing.

LabX Configuration Edit Window

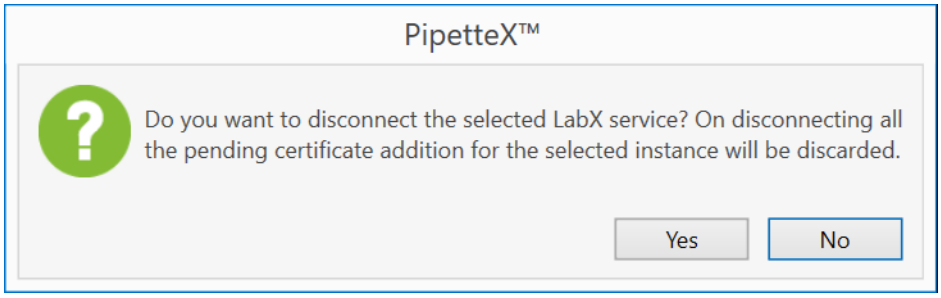


7.10.4 Establishing connection to LabX service

- A connection can be established to the LabX integration service after a config is added to the database.
- Using PipetteX, you can connect up to 15 instances.
- Select the instance and click **Connect**. The software will attempt to establish a connection.
  On successfully establishing the connection, the status is updated as **Connected**.
- Once the connection is established, you cannot edit the configuration.

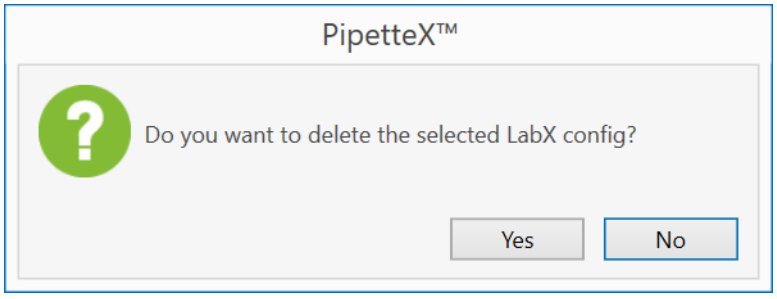
7.10.5 Disconnecting LabX connection

- An instance can be disconnected when it is no longer required or if any changes need to be made to the LabX configuration.
- Only one instance can be disconnected at a time.
- A pop-up message is displayed for confirmation when you select the instance and click **Disconnect**.
  On successfully disconnecting the connection, the status is updated as **Disconnected**.
- Once disconnected, the configuration can be edited, or the instance can be retired.



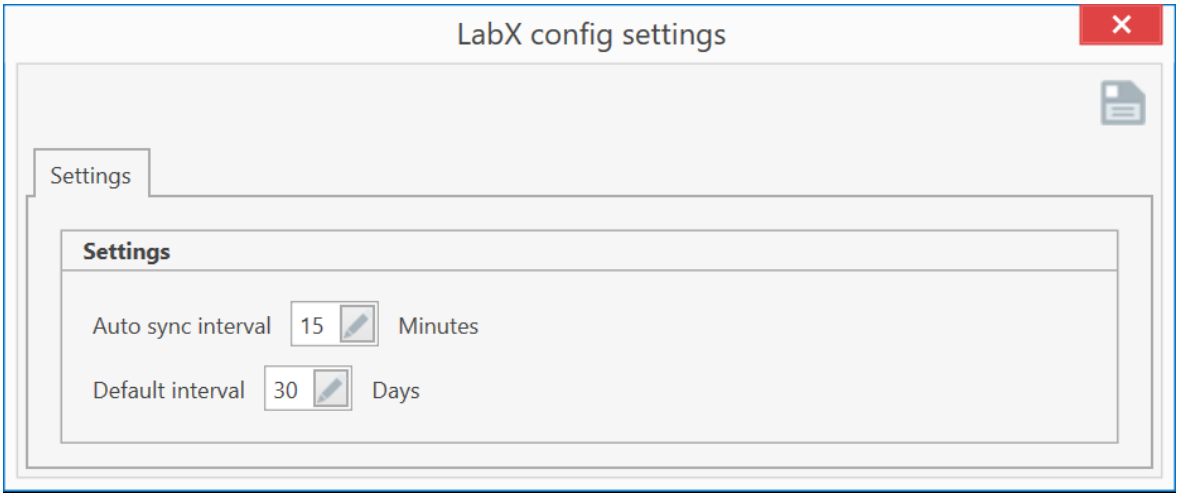
7.10.6 Deleting config

1. Retire the LabX API configuration from PipetteX when it is no longer needed.
2. The user shall be provided an option to retire the configuration instance.
3. The user can only retire the instance which is disconnected.
4. The user can retire one instance at a time.
5. The retired LabX instance name cannot be reused. LabX instance name is unique irrespective of the service status.



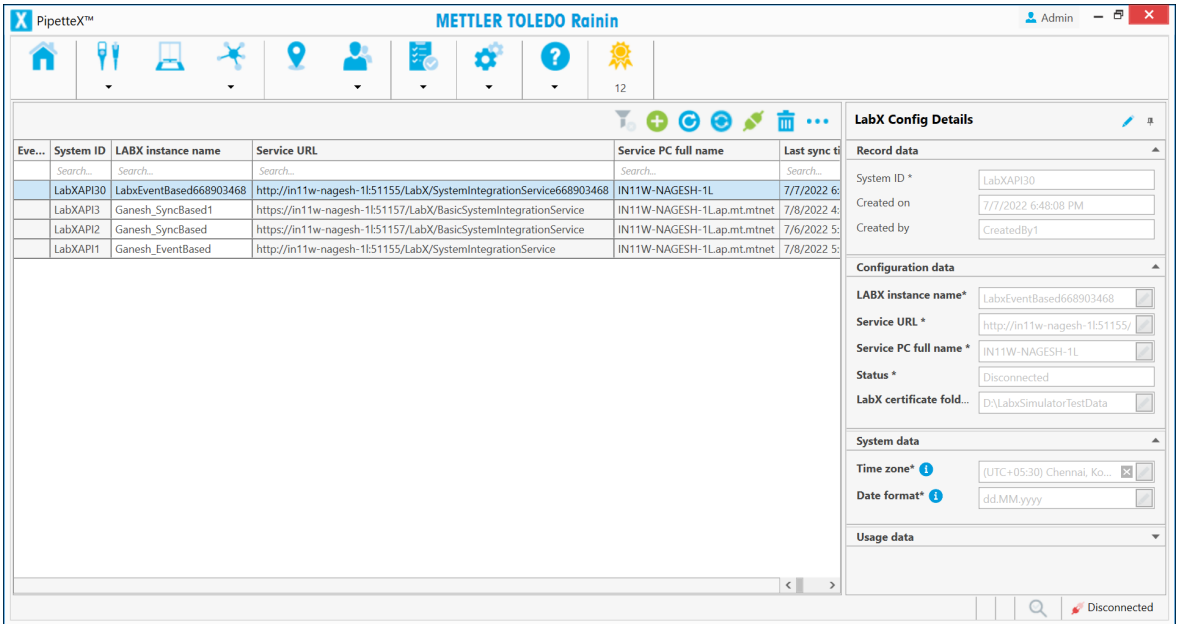
7.10.7 Setting auto-sync and default interval value

- Setting up interval time for auto sync. This is a timer-based auto-sync functionality. By default, the timer is set to 15 min.
- A provision is provided in UI for setting up the auto-sync interval. This will be the same for all of the LabX instances.
- The timer will only be updated for instances that are not retired.
- When setting up the default interval for the next routine check, by default the value will be 30 days. This will only be taken when LabX does not provide the interval value.



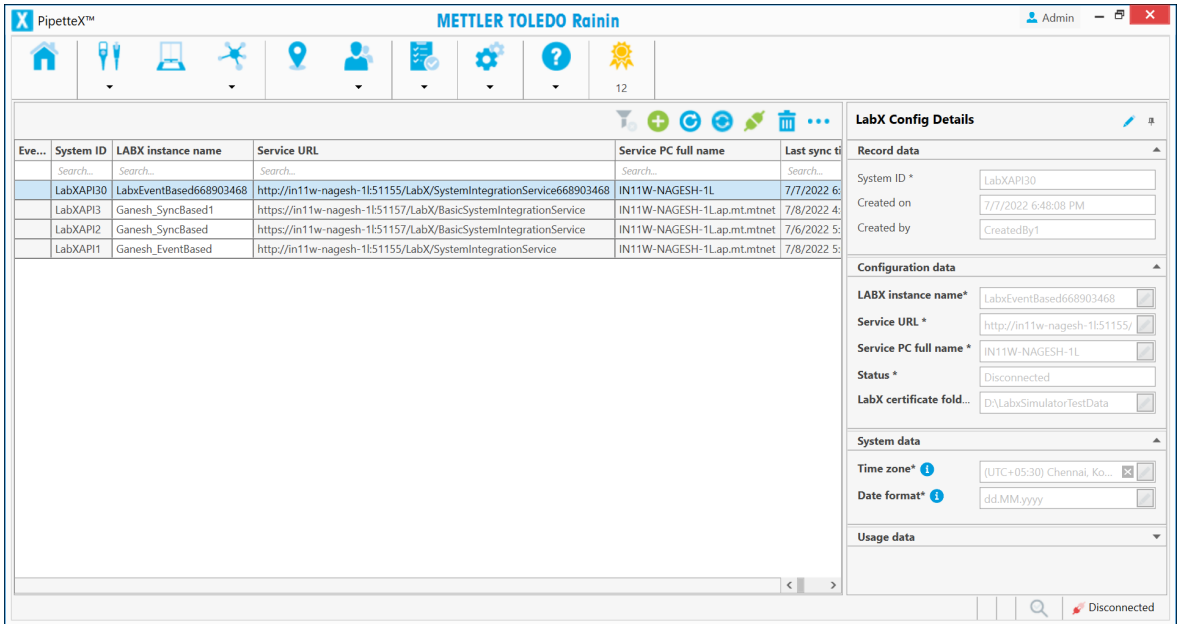
7.10.8 Auto Sync LabX Data

- Performs Auto sync of LabX data based on a defined time interval for all the connected LabX instances.
- The time interval is the same amongst all the instances.
- Auto sync is performed on the fly with the updated time interval. Without any service restart.



7.10.9 Manual Sync Labx Data

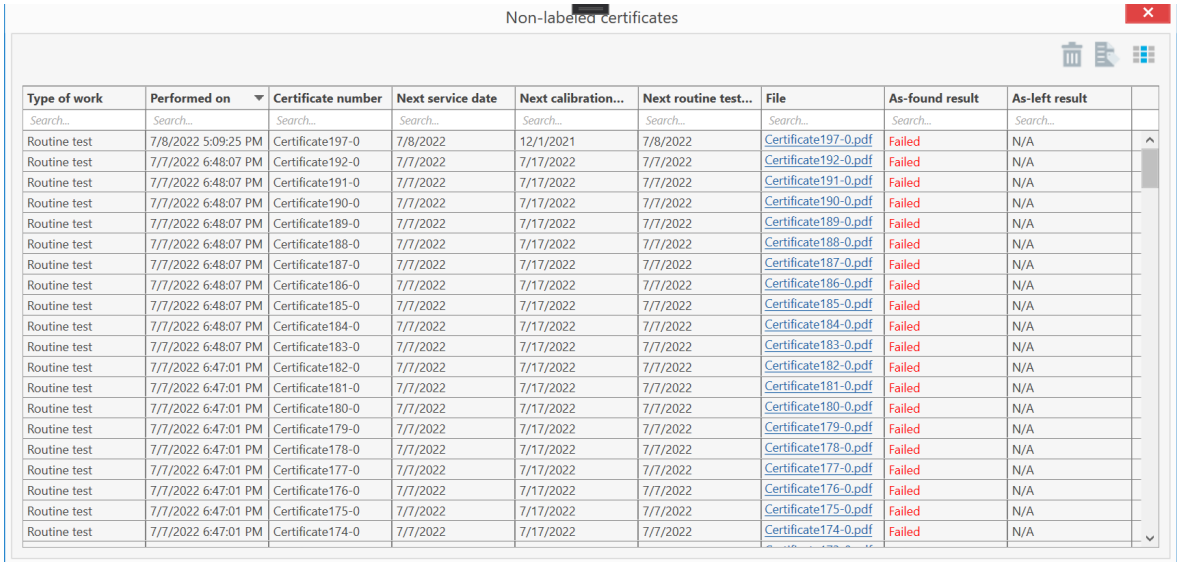
- Performs manual sync of LabX data based on the last sync time.
- The manual sync button will only be enabled when an instance is in a connected state.
- Manual sync is performed for all the instances configured in the UI that is in the connected state.



7.10.10 Add PipetteX certificate and Orphan certificate

The LabX certificate is added and mapped to PipetteX. The retrieved certificate will be mapped to the subsequent pipette in PipetteX that matches the serial number and model number present on the certificate.

If there is no matching pipette present in the PipetteX Application, then it is added as an Orphan certificate.



Type of work	Performed on	Certificate number	Next service date	Next calibration...	Next routine test...	File	As-found result	As-left result
Routine test	7/8/2022 5:09:25 PM	Certificate197-0	7/8/2022	12/1/2021	7/8/2022	Certificate197-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate192-0	7/7/2022	7/17/2022	7/7/2022	Certificate192-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate191-0	7/7/2022	7/17/2022	7/7/2022	Certificate191-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate190-0	7/7/2022	7/17/2022	7/7/2022	Certificate190-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate189-0	7/7/2022	7/17/2022	7/7/2022	Certificate189-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate188-0	7/7/2022	7/17/2022	7/7/2022	Certificate188-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate187-0	7/7/2022	7/17/2022	7/7/2022	Certificate187-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate186-0	7/7/2022	7/17/2022	7/7/2022	Certificate186-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate185-0	7/7/2022	7/17/2022	7/7/2022	Certificate185-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate184-0	7/7/2022	7/17/2022	7/7/2022	Certificate184-0.pdf	Failed	N/A
Routine test	7/7/2022 6:48:07 PM	Certificate183-0	7/7/2022	7/17/2022	7/7/2022	Certificate183-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate182-0	7/7/2022	7/17/2022	7/7/2022	Certificate182-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate181-0	7/7/2022	7/17/2022	7/7/2022	Certificate181-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate180-0	7/7/2022	7/17/2022	7/7/2022	Certificate180-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate179-0	7/7/2022	7/17/2022	7/7/2022	Certificate179-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate178-0	7/7/2022	7/17/2022	7/7/2022	Certificate178-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate177-0	7/7/2022	7/17/2022	7/7/2022	Certificate177-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate176-0	7/7/2022	7/17/2022	7/7/2022	Certificate176-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate175-0	7/7/2022	7/17/2022	7/7/2022	Certificate175-0.pdf	Failed	N/A
Routine test	7/7/2022 6:47:01 PM	Certificate174-0	7/7/2022	7/17/2022	7/7/2022	Certificate174-0.pdf	Failed	N/A

For the manual pipette, the certificate is stored as an Orphan certificate:

- if the model number is greater than 15 characters
- if the pipette is not available in PipetteX DB

7.10.11 Obsolete Orphan certificates

You can make an Orphan certificate obsolete if you have the correct permissions. Select the certificate and click 🗑. The certificate will move to **Obsolete** status once you select **Yes** in the pop-up window. This is recorded in the audit trail.

Note

Navigation: Settings > Settings (with policies) > Policies > Change policy

By default, the **Require reason for change** is disabled. You must enable **Require reason for change** to select a reason from the drop-down list in the **Reason** window.

8 Settings

8.1 Scheduler

For assets (pipettes), you can schedule data exports. For SmartStand and SmartCheck, you can schedule device software updates. In the grid of the scheduler, you can see the status of your scheduler.

The overview grid shows key information. Note that there are more data points available through the column chooser functionality. Read section [Filter, search, column chooser ▸ Page 140] on how to use the column chooser.

8.1.1 Add scheduler: export of data

You can schedule the export of asset data. Follow the below steps

1 Click ⊕.

2 **Schedule data:**
- Define a ScheduleID (mandatory)
- Define schedule type: Asset Export

3 **File export details:**
- File types: XLSX, CSV, XML
- Export path (mandatory): define an export path. It is important that the PipetteX application has write-access to this location. If PipetteX cannot write to the designated location, it will save the file to the default path: C:\Program Files (x86)\METTLER TOLEDO\PipetteX\Export

4 **Scheduler frequency details**
- Define schedule date and time
- Define scheduler frequency details: you can run the export once or multiple times.

5 Click save.

Note

setting write permissions

DISCLAIMER: The section below should only be used by people with sufficient systems and IT knowledge.

Depending on your system settings, PipetteX might detect that it lacks write access to a defined folder. You can provide it these rights as follows:

1 Under **Windows Services** find out the **Log On As** for the PipetteX Business Server.

2 Go to Windows Explorer and create or go to the folder where you want PipetteX to export the files.

3 Right-click the folder > **Properties** > **Security**.

4 Under **Group or user names**, click **Edit...** and in the next window click **Add...**.

5 In the field **Enter the object names to select**, input the **Log On As** name of the PipetteX Business Server from the Windows Service Window, and click **Check Names**, and when successful click **OK**.

6 Select the newly added user name. Under **Permissions for** in column **Allow**, select at least **Modify**, **Read and execute**, **List folder content**, **Read** options. Alternatively, just give **Full control**.

7 Click **OK** and **OK** again.

The files will now get exported to the folder. In a distributed network, you will need to make sure this folder is a shared folder or shared drive. Follow the steps below in Windows Explorer:

1 Right-click the folder > **Properties** > **Sharing** > **Share...** and add the **Log On As** user in the list of people you want to share with.

2 Select the **Log On As** account, give it **read and write** permissions, and click **Share**.

3 Copy the network path from the **sharing** tab in properties of the folder and close the window.

4 Right-click **This PC** and click **Map Network Drive**.

5 Select a drive and past the network path and click **OK**.

➡ Now you should be able to select the folder in the **Scheduler** and allow the scheduler to export to the folder.

8.1.2 Add scheduler: Firmware update

You can schedule the Firmware update of SmartStand and SmartCheck. Other device software of connected devices cannot be updated using the scheduler functionality. Follow the steps below:

1 Click .

2 **Schedule data**
- Define a ScheduleID
- Define Schedule type: Firmware update

3 **Firmware update scheduler details**
- Define Asset Category: SmartStand or SmartCheck.
- Define the Device status (SmartCheck only): this will be the device status during the device software update. After a successful update, the device will return to its original state and can be used again.
- Define the addresses (obligatory): this defines the addresses where the device software update to the equipment will be performed.
- Number of devices (automated): this shows the sum of devices affected in all addresses.

4 **Scheduler firmware specification**
- Define whether you want to update to the latest version (requires an active internet connection on your server) or whether you want to upload a manual file.

5 **Scheduler frequency details**
- Define Scheduled date and time.
- Define scheduler frequency details: you can run the export once or multiple times.

6 Click Save .

Note

- Only for SmartStand, the Firmware file will be in the zip format.
- If user selects **Fetch Instruments during run time** checkbox, then PipetteX considers only the active devices in the lab during scheduled runtime. If a user deselects Fetch Instruments during run time checkbox, then PipetteX considers all devices in the lab at the time of schedule creation.
- During Scheduler creation, PipetteX never considers the devices that are yet to be approved or in release pending status.

8.1.3 Edit scheduler

Any time can you edit an existing scheduler if you have the correct user permission and as long as the scheduler either has not been completed and/or if is a recurring scheduler. Double-click the record, change the parameters, and save.

8.1.4 Delete scheduler

Any time can you delete an existing scheduler if you have the correct user permission and as long as the scheduler either has not been completed and/or it is a recurring scheduler. Select the record, click , and confirm.

8.2 Comments

Comments are only applicable to those using e-sign policies and allow you to standardize e-signature comments (speeding up the e-signing process for users). Following are the predefined comments:

- Performed
- Reviewed
- Approved
- Reviewed and Approved
- Rejected

Note

- You cannot edit or delete the predefined comments.

- When you select a comment indicating **Rejected** and sign it, the record moves to the **Approved** status. You can decide the usage of records with rejected comments.
- The overview grid shows key information. There are more data points available through the column chooser functionality. Read the section [Filter, views, column chooser ▸ Page 140] to learn how to use the column chooser.

8.2.1 Add comments

To add a comment, follow the steps below:

1 Click .
2 Give a Comment ID.
3 Write down the comment (this becomes a text that a user can then choose from in the drop-down menu when signing off on a record)
4 Click save .

8.2.2 Edit comments

Any time can you edit an existing comment if you have the correct user permission. Double-click the record, change the parameters, and save.

8.2.3 Delete comments

Any time can you delete an existing comment if you have the correct user permission. Select the record, click , and confirm.

8.3 Reasons

You can add a reason for all the changes through edit, bulk, retire, delete, or settings update in PipetteX. You can enable or disable **Require reason for change** under **Settings** > **Policies**.

After a reason is created, it is pre-defined in the **Reason for change** dialog box whenever you save any changes. The **Reason for change** is captured under the section **Transaction details** of the Audit trail.

8.3.1 Add Reason

To add a reason, follow the steps below:

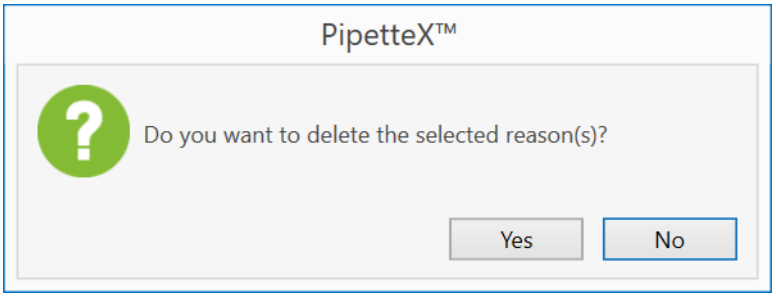
1 Go to **Settings** > **Reasons**.
2 Click **Add**.
➡ The **Add reason details** window is displayed.
3 Enter the **Reason ID**.
4 Provide the **Reason** for the update or change.
5 Click **Save**.
➡ The reason is created.

8.3.2 Delete Reason

To delete a reason, follow the steps below:

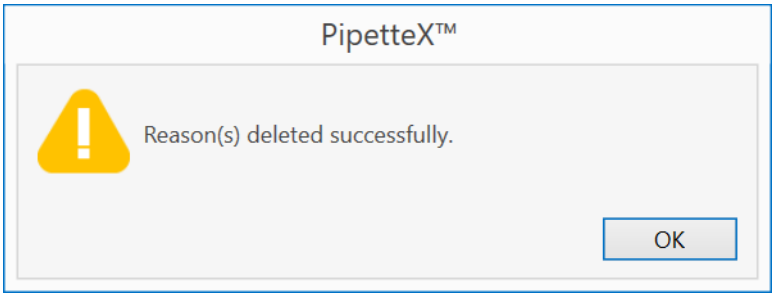
1 Go to **Settings** > **Reasons**.
2 Select the reason you want to delete.
3 Click **Delete**.

➡ The following dialog box is displayed.



4 Click **Yes**.

➡ The selected reason is deleted.

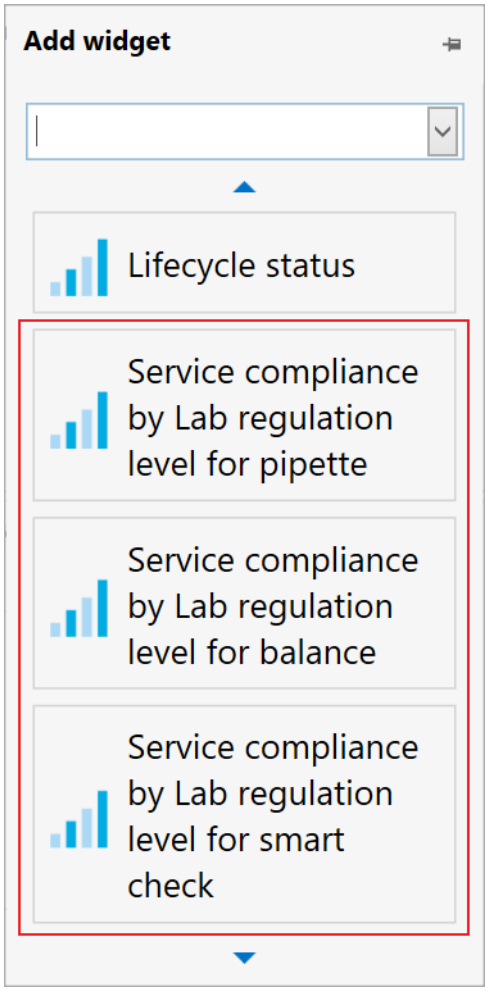


8.4 Lab Regulation Level

To provide visibility and management when planning a service, reviewing methods, or assigning/reviewing associated SOPs, you can designate laboratory regulation levels to workspaces/addresses and equipment used in the laboratories based on the type of work that is performed.

You can add a lab regulation and map it with the asset (pipette or balance). After a lab regulation is created, a bar graph is plotted on the **Home** > **Graph** dashboard in the following categories:

- Service compliance by Lab regulation level for pipette
- Service compliance by Lab regulation level for balance
- Service compliance by Lab regulation level for smart check



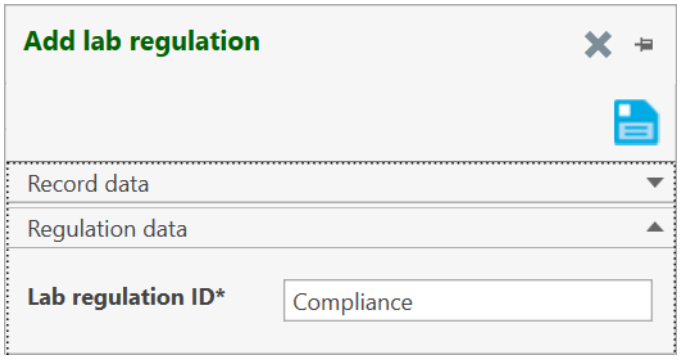
8.4.1 Add Lab Regulation

To add a lab regulation, follow the steps below:

1 Go to **Settings** > **Lab regulation level**.

2 Click **Add**.

➡ The **Add lab regulation** window is displayed.



3 Enter the **Lab regulation ID**.

4 Click **Save**.

➡ The lab regulation is created.

8.4.2 Delete Lab Regulation

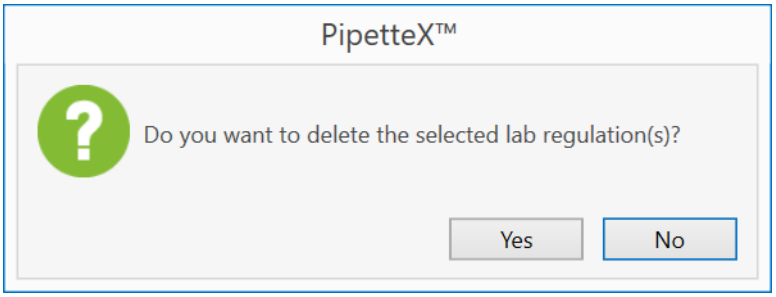
To delete a lab regulation, follow the steps below:

1 Go to **Settings** > **Lab regulation level**.

2 Select the lab regulation you want to delete.

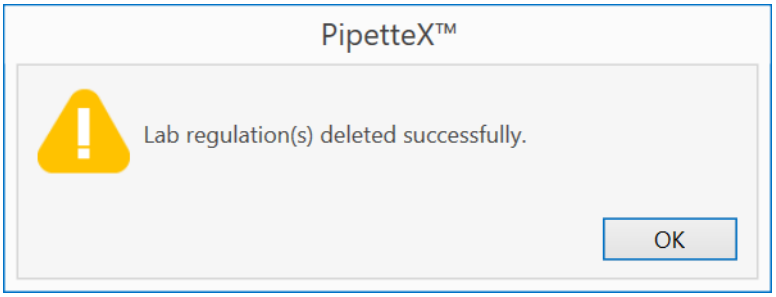
3 Click **Delete**.

➡ The following dialog box is displayed.



4 Click **Yes**.

➡ The selected lab regulation is deleted.

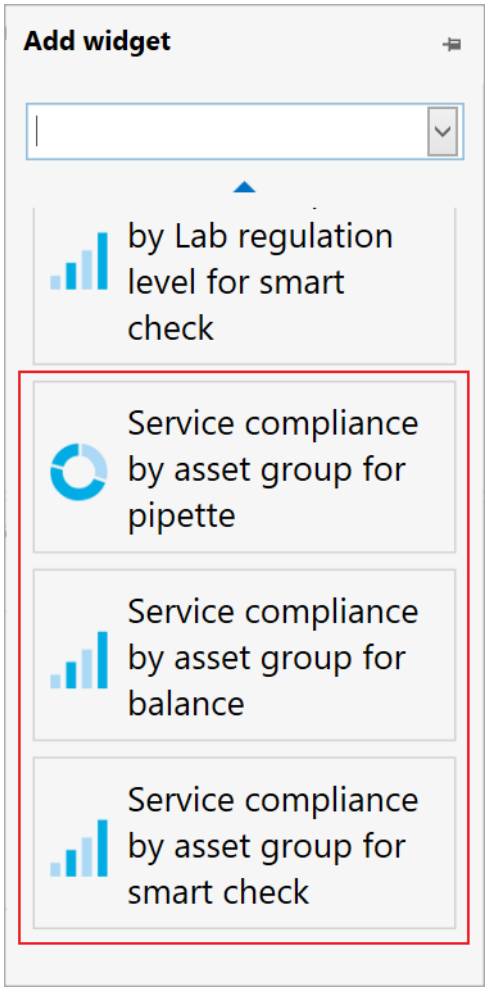


8.5 Asset Group

An asset group is used to manage shared assets more effectively, or group assets based on where they are used (like R&D, production, quality, etc). Assigning pipettes, SmartChecks, and balances to asset groups can be used to populate the **Lifecycle status** and **Usage of non-calibrated pipettes** graphs in the dashboard.

You can add an asset group and map it with the lab regulation. After an asset group is created, pie charts and bar graphs are plotted on the **Dashboard** > **Graph** dashboard in the following categories:

- Service compliance by asset group for pipette
- Service compliance by asset group for balance
- Service compliance by asset group for smart check



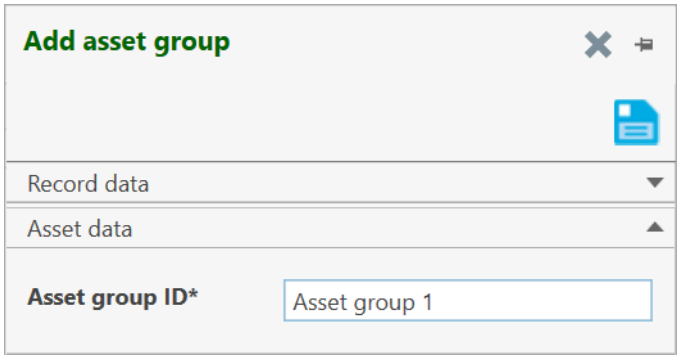
8.5.1 Add Asset Group

To add an asset group, follow the steps below:

1 Go to **Settings** > **Asset group**.

2 Click **Add**.

➡ The **Add asset group** window is displayed.



3 Enter the **Asset group ID**.

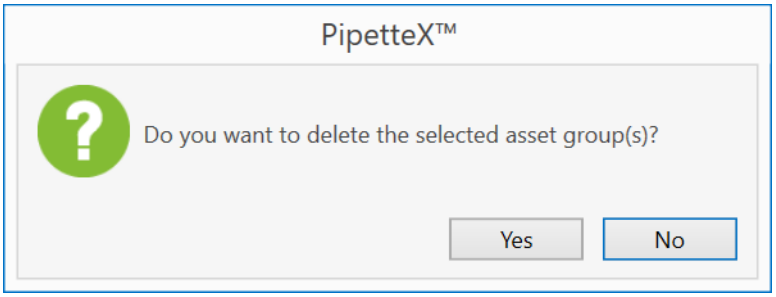
4 Click **Save**.

➡ The asset group is created.

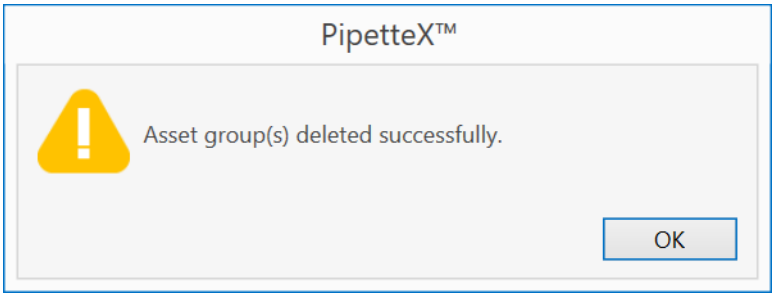
8.5.2 Delete Asset Group

To delete an asset group, follow the steps below:

1 Go to **Settings** > **Asset group**.
2 Select the asset group you want to delete.
3 Click **Delete**.
➡ The following dialog box is displayed.



4 Click **Yes**.
➡ The selected asset group is deleted.



8.6 Bulk E-sign

Navigation: Metrology and quality > Bulk E-sign

The bulk e-sign window displays the list of documents or records irrespective of the e-sign status (unsigned and partially signed) and the lab to which the user is assigned. Users with the correct user role and proper permission can bulk e-sign all their assigned records listed below:

- Asset documents (Pipettes and Balances certificates or verification reports)
- Methods
- Audit Trail

Depending on the **Category** and **E-sign option** selected, the bulk e-sign window displays the documents or records pending for e-sign. For example, a list of pipette documents is displayed when you choose **Pipette documents** from the **Category** drop-down list and **Review** from the **E-sign option** drop-down list.

To bulk e-sign the documents or records, follow the steps below:

1 Go to **Metrology and quality** > **Bulk E-sign**.
2 Select the document or record type from the **Category** drop-down list.
3 Select the e-sign level from the **E-sign option** drop-down list.
4 Click the **Refresh data** icon to load the new documents or records.
5 Press **Ctrl + A** to select all the displayed documents or records.
6 Click the e-sign icon.
7 Add a comment and click the e-sign icon.
8 Authenticate yourself with your PipetteX credentials.
➡ All the displayed documents or records are now e-signed.

Note

- By default, the **Bulk E-sign** window displays a list of 100 documents or records. When you press **Ctrl + A**, only the displayed 100 records are selected and e-signed. The remaining documents or records are not selected, and they remain unsigned.

8.7 Settings

If any change is made in the following settings, you must log off from PipetteX and log in again to apply the changes.

8.7.1 General settings

Navigation: Settings > Settings (with policies) > General settings

In general settings you can set:

- **Language:** PipetteX supports English, Chinese (simplified + traditional), French, German, Italian, Japanese, Korean, Portuguese, and Spanish.
- **Tray notifications:** If you do not want Windows Tray notifications, you can switch them off here.
- **METTLER TOLEDO data sync refresh rate (hrs):** this determines how often PipetteX refreshes its calibration and service data. Default is 12hrs and this should be sufficient for most use cases.
- **Archive functionalities:**
  - **Retention for archive:** if you want to archive information, you can switch this on.
  - **Retention duration (years):** by default it is 1 year, you can increase this if needed.

8.7.2 Security

Navigation: Settings > Settings > Security

On the **Security** tab, you can set several security policies for the entire system. After changing a setting, click save to store the settings. Upon saving, the settings are reinforced to all users on the system.

- **Active directory:**
  - **Active directory authentication:** if you switch this on, you are able to setup users in PipetteX using your company's active directory.

    Note

    If an Active Directory user is renamed or has reset their password in the Active Directory, then the user needs to first log in to an active directory domain PC before being added or logging in to PipetteX. Otherwise, PipetteX cannot fetch new information from the Active Directory.
  - **Single Sign-On:** if you switch this on, you allow your users to login with their Windows credentials. Double clicking the desktop icon of PipetteX will now automatically log these users in.
- **Login:**
  - **Deactivate account after failed login:** by switching this on, you can log users out of PipetteX.
  - **Max login attempts:** you can define how many failed login attempts a user can have. After you reach the maximum number of attempts, PipetteX automatically deactivates your account.
- **Password management:**
  - **Password complexity:** by switching this on you can further set rules around whether password and username can be the same, password length as well as usage of special characters. PipetteX will enforce these rules to users when they define their new password.
  - **Password reuse:** be switching this on, you can define how many times a user can reuse an old password.
  - **Password expiry:** by switching this on, you can define how many days a password is valid and whether users need to be notified to change their passwords to prevent being logged out from PipetteX.

- **Reset forgotten password:** by switching this on, you can reset the password when needed by setting security questions (3 out of 5). PipetteX allows 4 unsuccessful attempts to answer security questions before the account gets deactivated. After you reach the maximum number of unsuccessful attempts, you must contact the admin to reset the password.

- **User management:**

  By switching the **User email required** on, the **Email ID** field becomes mandatory when you add a user. You must provide the email ID whenever you save any changes in PipetteX.

- **Screen lock:**

  When enabled, this feature locks the screen of PipetteX, and the user is prompted to the login/password screen. All the services will run in the background when the screen is locked.

  By switching the screen lock on, you can define how many minutes (maximum 120 minutes) it takes until users get automatically logged off from PipetteX. If any change is made in the screen lock settings, you must log off from PipetteX and log in again to apply the changes.

- **Session expiration:**

  By default, it is enabled and cannot be disabled. When the time set is up, the PipetteX application will be terminated entirely, and the user must launch the PipetteX application again to use it.

  You can define after how many minutes (maximum 125 minutes) the session should end. If any change is made in the session expiration settings, you must log off from PipetteX and log in again to apply the changes.

  It is recommended to set a higher "Session expiration" wait time than the "screen lock" wait time.

8.7.3 Email notifications

Navigation: Settings > Settings (with policies) > Notifications

8.7.3.1 Notifications: types

PipetteX can trigger multiple email notifications. Read below on how to set these up and what they will contain. After changing a setting, click save to store the settings. Upon saving, the settings are reinforced to all users on the system.

- **SMTP mail server settings**

  These are settings your IT system admin needs to provide you. The sender's email address will be the email address that is shown as the sender of the email when the notification comes into your inbox. e.g, pipetteX@testlab.com.
- **Alert settings**

  For each of the alerts you can define who the alert should be sent to and for some, you can define the alert period.

Note

- Once alerts are active, they are active for all addresses on the system.
- You cannot set alerts individually per user or address.
- Some alerts are sent out on an individual event basis.

The following events can be scheduled:

Service alerts:

- Next service/calibration due
- Next routine test due
- As-found failure during service (only works if service is done by METTLER TOLEDO)
- As-found failure during routine test

Asset alerts (check for which assets this applies):

- Asset out of calibration usage
- Asset status change
- Asset connectivity issue: if a device connection is interrupted.
- Asset is near end of life
- Asset displacement: if a device is seen outside of the assigned address.

General alerts:

- User account disablement: if a user locks themselves out, an admin can be informed to reset the password.

8.7.3.2 Notifications: email message

The email alerts contain the following information for service alerts:

Pipette:

Subject: PipetteX alert: Pipette service due in 1 day(s)

Body:

Pipette service due in 1 day(s)

Lab name	Last seen (Reader)	Owner	Next service date	Next calibration date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID	Method ID
Lab1	A640000002 I 2	Admin	12/25/2019	12/25/2019	RAININ	L-2XLS+	Fixed	1	1232	B12	Test

Balance/SmartCheck:

Subject: PipetteX alert: Balance service due in 1 day(s)

Body:

Balance service due in 1 day(s)

Lab name	Last seen (Reader)	Owner	Next service date	Next calibration date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID	Method ID
Lab1		Admin	12/25/2019		Mettler-Toledo	SmartCheck			1232	B03	Test 1

The email alerts contain the following information for routine test alerts:

Pipette:

Subject: PipetteX alert: Pipette routine test due in 1 day(s)

Body:

Pipette routine test due in 1 day(s)

Lab name	Last seen (Reader)	Owner	Next routine test date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID	Method ID
Lab1	A64000 0002 I 2	Admin	12/25/2019	RAININ	L-2XLS+	Fixed	1	123456 78	B49	Test 2

Balance/SmartCheck:

Subject: PipetteX alert: Balance routine test due in 1 day(s)

Body:

Balance routine test due in 1 day(s)

Lab name	Last seen (Reader)	Owner	Next routine test date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID	Method ID
Lab1		Admin	12/25/2019	Mettler Toledo	SmartCheck			123456 78	B03	Test 2

The email alerts contain the following information for as-found failure during service alerts:

Pipette:

Subject: PipetteX alert: As-found failure during service

Body:

The below pipette(s) failed the as-found test during the last pipette service

Lab name	Last seen (Reader)	Owner	Next service date	Next calibration date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab1	A6400000 02 I 2	Admin	12/24/2020	12/24/2020	RAININ	L-2XLS+	Fixed	1	e22	B23

The email alerts contain the following information for as-found failure during routine test alerts:

Pipette:

Subject: PipetteX alert: As-found failure during routine test

Body:

The below pipette(s) failed the as-found test during the last routine test

Lab name	Last seen (Reader)	Owner	Next routine test date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab1	A6400000002 I 2	Admin	12/24/2020	RAININ	L-2XLS+	Fixed	1	123465	B12

Balance/SmartCheck:

Subject:

PipetteX alert: As-found failure during routine test

Body:

The SmartCheck(s) below failed the as-found test during the last routine test:

Lab name	Last seen (Reader)	Owner	Next routine test date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab2		Admin	12/24/2020	Mettler Toledo	SmartCheck			123465	B12

The email alerts contain the following information for asset out of calibration alerts:

Subject: PipetteX alert: Usage of asset that is out of calibration

Body:

The below asset(s) is/are out of calibration however still being used.

Lab name	Last seen (Reader)	Owner	Next service date	Next calibration date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab1	A6400000002 I 2		2/7/2020	12/22/2019	RAININ	L-2XLS+	Fixed	1	D1055225T	SWDC/

The email alerts contain the following information for asset status changed alerts:

Subject: PipetteX alert: Status change of asset(s)

Body:

The status of the below asset(s) has been changed from Active to in Service.

Lab name	Last seen (Reader)	Owner	Next service date	Next calibration date	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab1	A6400000002 I 2	Admin	12/24/2020		RAININ	L-2XLS+	Fixed	1	159	

The email alerts contain the following information for asset connectivity issue alerts:

Subject: PipetteX alert: Asset connectivity issue

Body:

The below device is in a disconnected state.

Instrument name	Model number	Serial number
EasyScan USB	RfidEasyScan	B1234567893

The email alerts contain the following information for asset near end-of-life alerts:

Subject: PipetteX alert: Asset(s) will reach end of life in 1 day(s)

Body:

The below asset(s) will reach end of life in 1 day(s)

Lab name	Last seen (Reader)	Owner	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab1		Admin	3M	PIPETTOR II FIXED 1ML	Manual	1	12346587	B10

The email alerts contain the following information for asset displacement alerts:

Subject: PipetteX alert: Asset(s) displacement detected.

Body:

The below asset(s) is/are detected as potentially misplaced.

Lab name	Owner	Last seen (Reader)	Reader location	Manufacturer	Model number	Pipette type	Channels	Serial number	Asset ID
Lab1		A640000002 I 2	Lab2	RAININ	L-2XLS+	Fixed	1	D1055225T	SWDC/PIP/001

The email alerts contain the following information for user account disabled alerts:

Subject: PipetteX alert: User account disabled

Body:

The below user account(s) has/have been blocked due to too many wrong password entries.

Username	First name *	Last name *	User role	User status	E-mail	Laboratory name
a	a	a	Researcher	InActive		

8.7.4 Policies

Navigation: Settings > Settings (with policies) > Policies

Read section [Policies ▸ Page 20].

8.7.4.1 Enable release policy

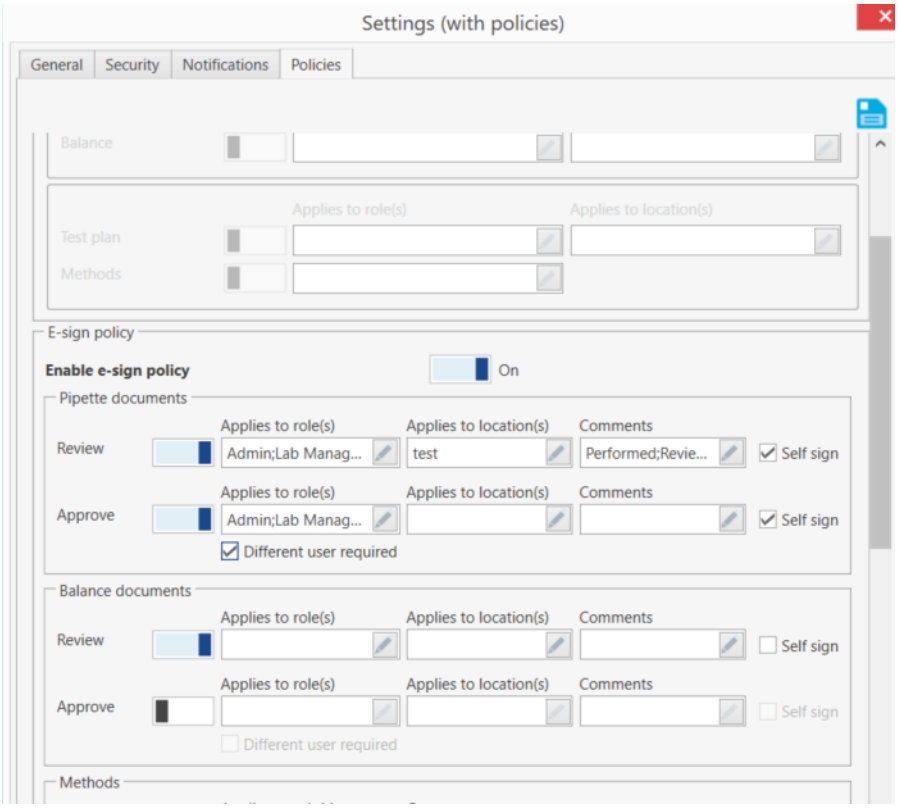
To enable a release policy, go to **Settings > Policies**.

1. Enable release policies by switching the switch to ON
2. For each of the 5 categories you can now determine whether
   - You want any of the 5 categories to have a policy active
   - What user role can release (this will be the same user role for each address afterwards)
   - To what address the policy applies
3. Click save

Once the policy is assigned to a lab and activated, it becomes effective right away. If any records for the categories were present before the policy became effective, the records are assumed released and will automatically receive the status "released" for those addresses. New records that will get added to the PipetteX applications after the policy is activated will follow the release mechanism.

8.7.4.2 Enable e-sign policy

To enable an e-sign policy, go to **Settings (with policies)** > **Policies**.



1. Enable e-sign policies by switching the **Enable e-sign policy** toggle switch to ON.
2. For each of the two categories, you can determine whether:
   - You want either of the two categories to have a policy active
   - What user role can e-sign (this will be the same user role for each address afterward)
   - To what address the policy applies
   - You want to enable the second-level e-sign and decide whether the same user who e-signed at the first level can e-sign at the second level. If a different user must e-sign the second level (approve), select the **Different user required** check box.

     Note

     If **Self sign** is enabled at both levels (**Review** and **Approve**) and **Different user required** is enabled, the user who generated the record can either perform **Review** or **Approve** but not both.
   - Whether a 4-eye principle is required. By default, you cannot sign off on your own generated records. Select the **Self sign** check box to sign off records generated by you (this turns off the 4-eye principle).
3. Click **Save**.

Once the policy is assigned to a lab and activated, it immediately becomes effective. Any document record now subject to the policy must be e-signed. Previously generated records or e-signed records do not have any impact.

8.7.4.3 Routine test policy

To enable routine test policy, go to **Settings** > **Policies**.

1. By default, the **Allow routine test when pipette/method card in writing pending** is enabled.

   You can perform the routine test for a pipette that has the **Writing status** as **Pending**. For more information about routine test, see section [Routine Test a Pipette ▸ Page 107].
2. Enable **Require user identification** by moving the toggle switch to the on position.

You will be prompted to scan the user card during routine test. Perform the routine test in any of the following methods:

– Autonomous. For more information about SmartCheck autonomous case, see section [Pipette routine test: SmartCheck autonomous case ▸ Page 108].

3. Click save to store the settings.

8.7.4.4 Change policy

To enable a change policy, go to **Settings** > **Policies**.

1. Enable **Require reason for change** by moving the toggle switch to the on position.

   You can enter a reason for all the modification or settings changes in PipetteX. For more information about reason, see section [Reasons ▸ Page 125].

2. Click save to store the settings.

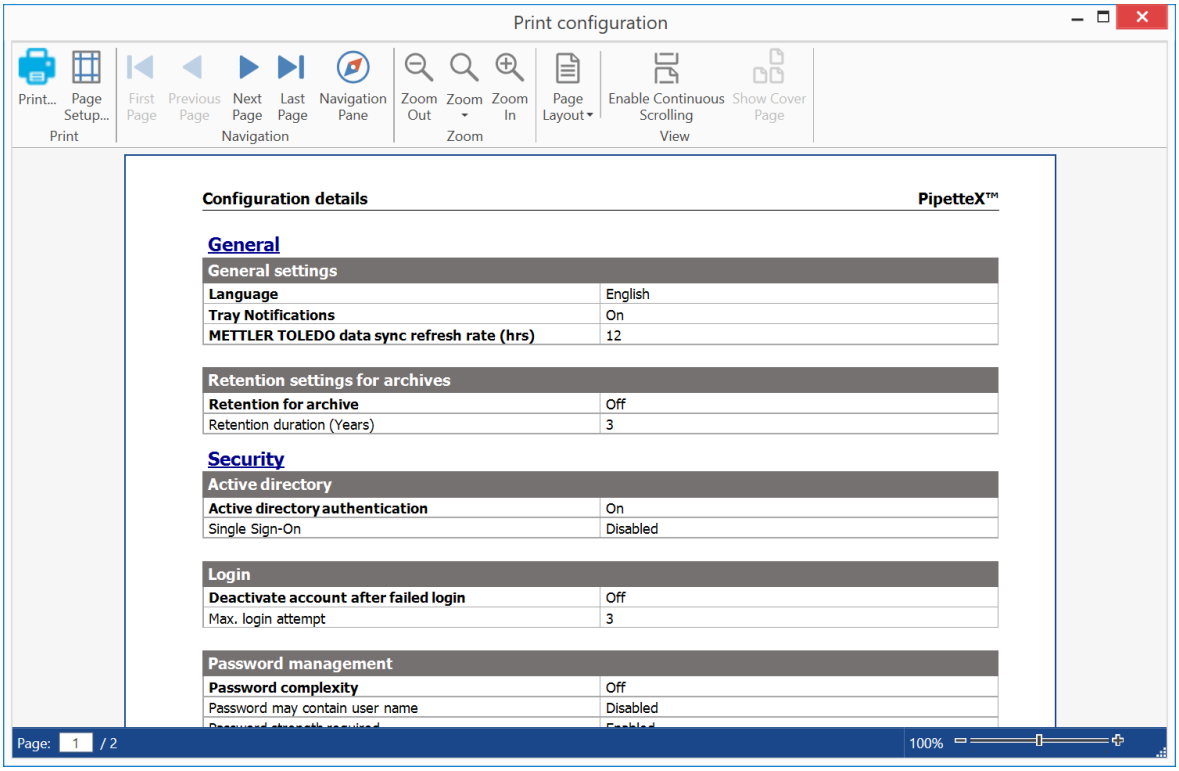
8.8 Print configuration

You can print the configuration details to PDF using **Print configuration**. To print the configuration details, follow the steps below:

1 Go to **Settings**.

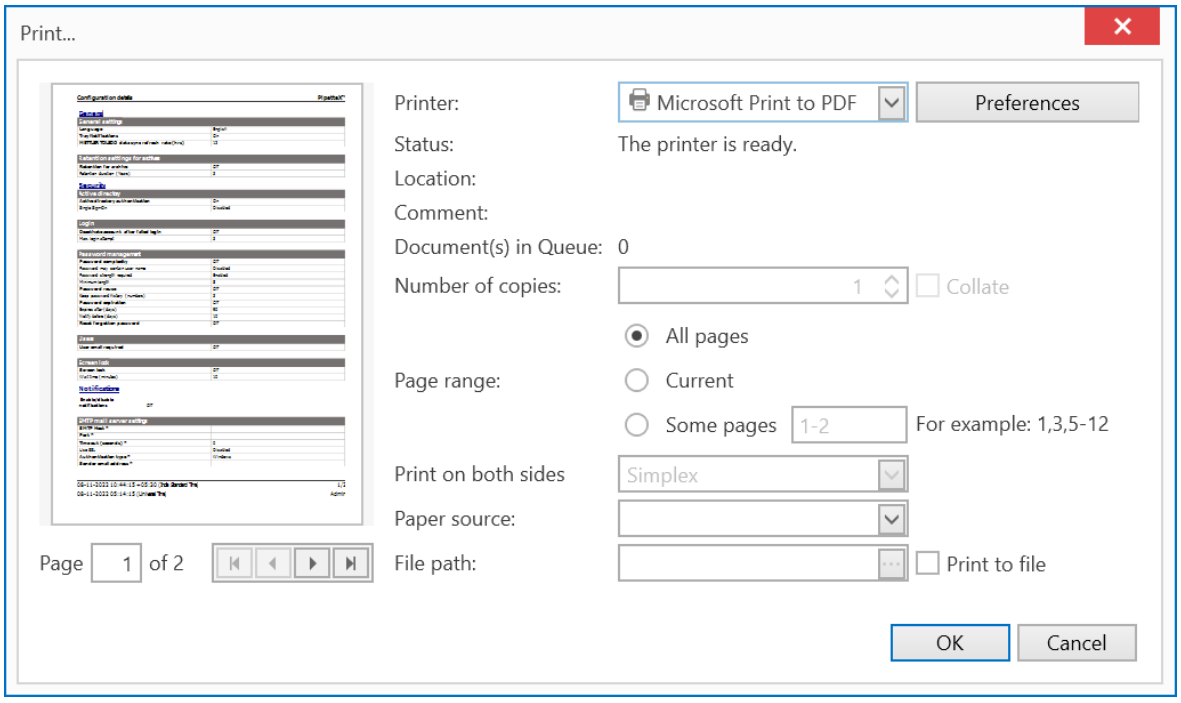
2 Click **Print configuration**.

➡ The print preview is displayed on the screen.



3 Click **Print...**.

➡ The **Print...** dialog box is displayed.



4 Select your desired options and click **OK**.

8.9 PipetteX Updates

You can check for updates of PipetteX by going to **About** in the ? help section. Whether you can or cannot update PipetteX depends on your user rights. Read section [Upgrading your Existing PipetteX ▸ Page 14] before you start an update.

9 Views

There is a lot of flexibility in the software for changing the view. Read below about your options.

9.1 Filter, search, column chooser

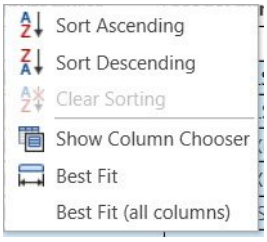
In all grids, you have several options for searching, sorting and filtering. This helps you to quickly access data.

Search

You can search each field for specific contents by entering the details for the content needed in the first row under **Search**. The matching fields are then listed in the view.

Sort, resize and (re)move columns (move to general section)

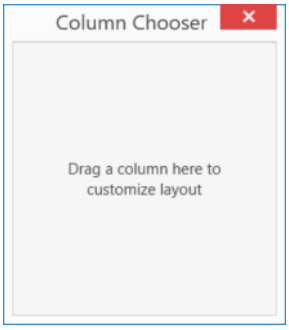
You can sort data by ascending or descending by right clicking on the header and select **Sort Ascending** or **Sort Descending**.



You can resize columns manually by dragging the columns to your need or use **Best Fit** or **Best Fit (all columns)** to automatically resize all or the current columns.

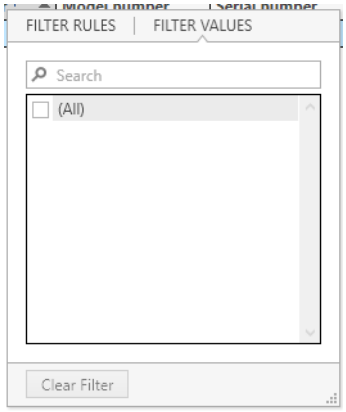
Add and remove columns

You can add or remove columns from your view either by right-clicking any column or by clicking . Open the column chooser and drag/drop the column into the column chooser window. The view you have created will be stored in your local user settings.



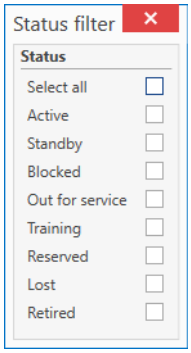
Filter

You can filter the data by clicking on any column header. You can select the values you wish to view from the "FILTER VALUES" tab or enter the text/range of values you wish to view from the pop-up window. Note that the filter options vary based on the type of field you have selected (Text, number, or date).



You can also filter values by clicking on a section on the chart. This feature is available only for Pie Charts (Calibration Service Status & Write Status).

You can clear the filter by clicking on **Clear Filter**. You can also filter the view based on the Status field by selecting from the top right corner. You can select one or more Status fields that you wish to view. Note that based on the selection, the filter is applied to all the records in the database and not only to the data visible in the view (that is the filter is refreshed). Also, note that some of the Status fields may not be available for you to select (greyed out) based on your User profile.



9.2 Custom fields (assets only)

In addition to the fields available for the assets, you can add more fields that can be stored in the database. Some of the selected custom fields can also be written to RFID pipettes. Note that the custom data you can write to RFID Pipettes is restricted to 4 fields.

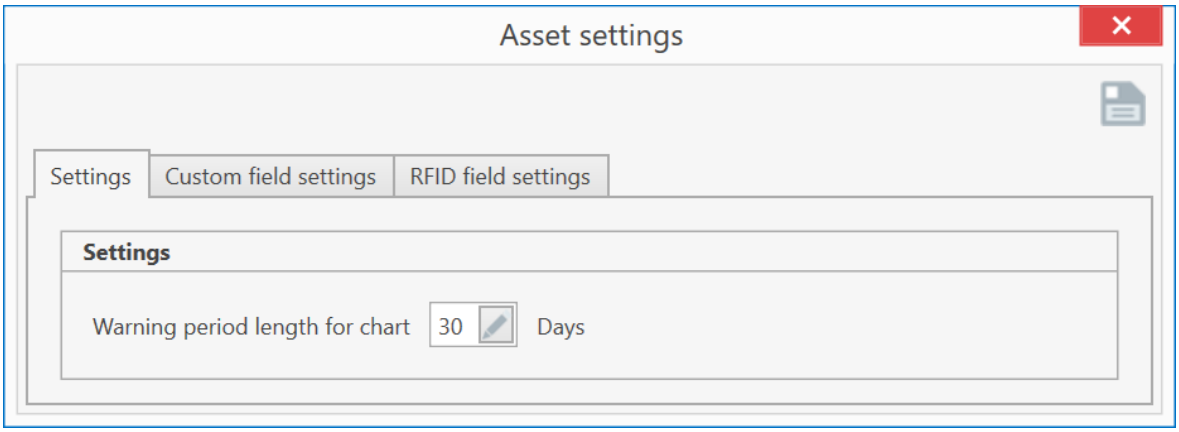
Use custom fields as follows:

1 Click from the Assets view page.

2 Under the **Custom field settings** tab, define the following:

- **Field name** (is column header).
- **Data type**:
  - **Text**: any ASCII letter or number can be entered in the field (each character is 1 byte). You have to define the total field length of the text field.
  - **Small number**: if the value is just numerical, choose this as a number only takes up 2 bytes if specified. Small numbers are any numbers below 65535.
  - **Big number**: if the value is numerical and larger than 65535, choose this type. Big numbers take up 4 bytes of space.
  - **Date**: if the value is a date, select date. This will take up 2 bytes.
- **RFID field settings** tab:
  Check if you wish this field value to be written on the RFID pipette.
  - Though the RFID has a total of 126 bytes of free memory, you can assign only 4 fields, irrespective of the available size. Also note that if the length of the field's value exceeds 126 bytes while writing values, the values will be truncated.

– If you work with Calibry software, note that the RFID structure is compatible with Calibry 6.x and up. Previous versions of Calibry will not recognize the structure, potentially overwrite data, and will cause a loss of data between PipetteX and Calibry after a successful write-in of Calibry.



9.3 Set user specific asset views

You can define which user sees which asset in PipetteX. See the table below on how to set up the specific views.

View	Users	Addresses	Assets
Lab manager sees all assets in just their lab	1. Set up Lab manager as user 2. Assign Lab manager "Lab Manager" user Profile	1. Set up Lab as address 2. Add Lab Manager as user to Lab Address	1. Assign address to asset
Each researcher sees just their assets. Lab Manager sees all assets in their lab	1. Set up Lab manager as user 2. Assign Lab manager "Lab Manager" user Profile 3. Set up Researcher as user 4. Assign Researcher "researcher" profile	1. Set up Lab as address 2. Add Lab Manager as user to Lab Address	1. Assign address to asset 2. Assign asset to researcher
Researcher can see any asset in the lab	1. Set up Researcher as user 2. Add "See Assigned Lab Records" to user right profile of researcher 3. Assign Researcher new "researcher" profile	1. Setup Lab as address 2. Add Researcher as user to Lab Address	1. Assign address to asset

9.4 Archive view

With the archiving functionality for asset data (see section [DB Utility ▸ Page 145] how to archive data) you can add in this archived data if you need to consult it again. The archived data cannot be changed.

To add in archived data (user rights permitting),

1 On the asset tab click the icon

2 From the drop-down menu select the archive file you would like to add in

To undo the archive data view, select the production view.

9.5 Viewing the retired records

By default, the retired records are hidden. You can view the retired records (Assets, Balances, User, Address, Roles, Methods, and Test plan) in PipetteX if you are assigned one of the following roles:

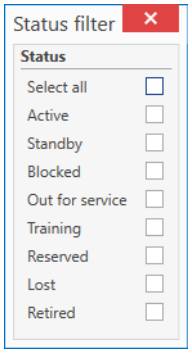
- Admin
- Lab Manager
- Service Admin

You cannot edit the record when it is in the **Retired** state. To view the retired records, follow the steps below:

1 Select the record (Assets, Balances, User, Address, Roles, Methods, and Test plan) from the menu.

2 Click the Status filter from the top right corner.

➡ The **Status filter** window appears.



3 Select the **Retired** checkbox and close the **Status filter** window.

➡ The list of all the retired records is displayed.

9.5.1 Activating the retired record

You can activate the retired records (Assets, Balances, User, Address, Roles, Methods, and Test plan) in PipetteX if you are assigned the appropriate role.

Assets

Once the pipette (Manual or Electronic pipette) is retired in PipetteX, the pipette does not automatically become active when added via one of the following:

- Readers/SmartStand: The tray notification is shown, and the pipette gets highlighted in the asset overview without changing the asset status from retired to any other status.
- Import: The pipette status is not changed in PipetteX if the retired pipette is imported as active/Invalid/empty. Also, the same is updated in the import log.
- USB/BLE: The pipette status is not changed in PipetteX if the retired pipette is added via USB or BLE. The connection status remains **Disconnected** until you manually change the device status from **Retired** to any other status. If the device is connected, the connection status is changed to **Connected** from **Disconnected**.

Balances

When the balance (Balance & SmartCheck) is added from the retired view, the status is automatically changed to **Active** from **Retired**. You cannot change the status from **Active** to **Retired** or from **Retired** to **Active** though you are assigned an Admin or Service Admin role.

Methods

When you activate the retired records, a new version is created and the active version is retired, e.g., Method1 has 2 versions - V1 (retired) and V2 (active). When Method1 V1 is activated, the new version (V3) is created and V2 is automatically retired.

Test plan

You cannot activate the retired test plan unless you are assigned an Admin or Service Admin role.

Audit trail

The record reactivation status is captured in the audit trail:

- When a record is retired via a side panel (Assets, User, Address, Roles, Methods, and Test plan) the following entries are captured:
  - Modified - captures all the modified fields with old and new values (first entry).
  - Retired - captures all the fields in the old value (second entry).
- When the retired record is activated (either via single edit or bulk edit), only the newest value in the change history is captured.

Note

- Bulk editing is not possible when the selected records are in **Retired** & other statuses. You must unselect the records with other statuses to continue with the edit operation.
- You can change the status from **Retired** to other status when the selected records are in **Retired** status.

10 Additional Utilities

10.1 Database Utility

The database utility automatically installs with PipetteX and can be found through the Windows Start Menu in the folder METTLER TOLEDO -> PipetteX DB Utility. Using a database utility, you can perform automatic backup and also set the database rights for a scheduled backup.

The DB Utility serves two purposes:

1. It allows you to make database backups and restore backups.
2. It allows you to archive data to reduce the DB size.

Note

You must have read/write permission to perform any operation in DB Utility.

10.1.1 Backing up and restoring data

By clicking the Backup icon a window pops up with 3 fields:

- Backup Name (generated automatically): the naming convention is PipetteXDB_ddmmyyyyhhmmss
- Notes: you can add notes to the backup file
- Backup Folder: this is the default path. You can pick your path if needed (ensure that the path can be written too)

In the end, click backup and the file is generated.

The backed-up database can be restored by using PipetteX - DB Utility tool. Before performing the restore operation, please ensure the PipetteX application is not open and there is no background operation happening with the database. Any ongoing operations at this stage may result in loss of data.

Note

- **Backup & Restore – Service Certificates**
  Backup Certificate Folder
  The Service certificates of Pipettes/Assets in PipetteX are stored in the database.
  Restore/Place Certificate Folder
  [During database restore in a different PC hardware]
- Only the backups done using PipetteX - DB Utility tool will be supported in the RESTORE option. That is, Database backup done using other SQL management tools (e.g. Management Studio, DB Forge) will not be recognized by PipetteX - DB Utility tool.
- A backup of a database done using a newer version of SQL (e.g., 14.0.1000) cannot be restored to an older version of SQL (e.g. 11.0.3000).
- After restoring the database, ensure you restart your PC (where PipetteX and DB Utility tool is installed).

10.1.2 Archiving data

Archiving data can reduce the DB size by deleting records from the active DB and copying them to an archived file.

By clicking the archiving data icon a window pops up with 4 fields and an overview grid of all your archived files.

- **Archive name:** the naming convention is Archive_[start date of archive]dd-mmm-yyyy-[the end date of archive]dd-mmm-yyyy. You can change this name.
- **Start date:** this is the date from when the archive will start.
- **End date:** this is the date at which the archive cuts off.
- **Purge date:** this is the date that the data will be removed from the DB. If you do not set the purge date, PipetteX will remove all data from the active database up until the defined end date.

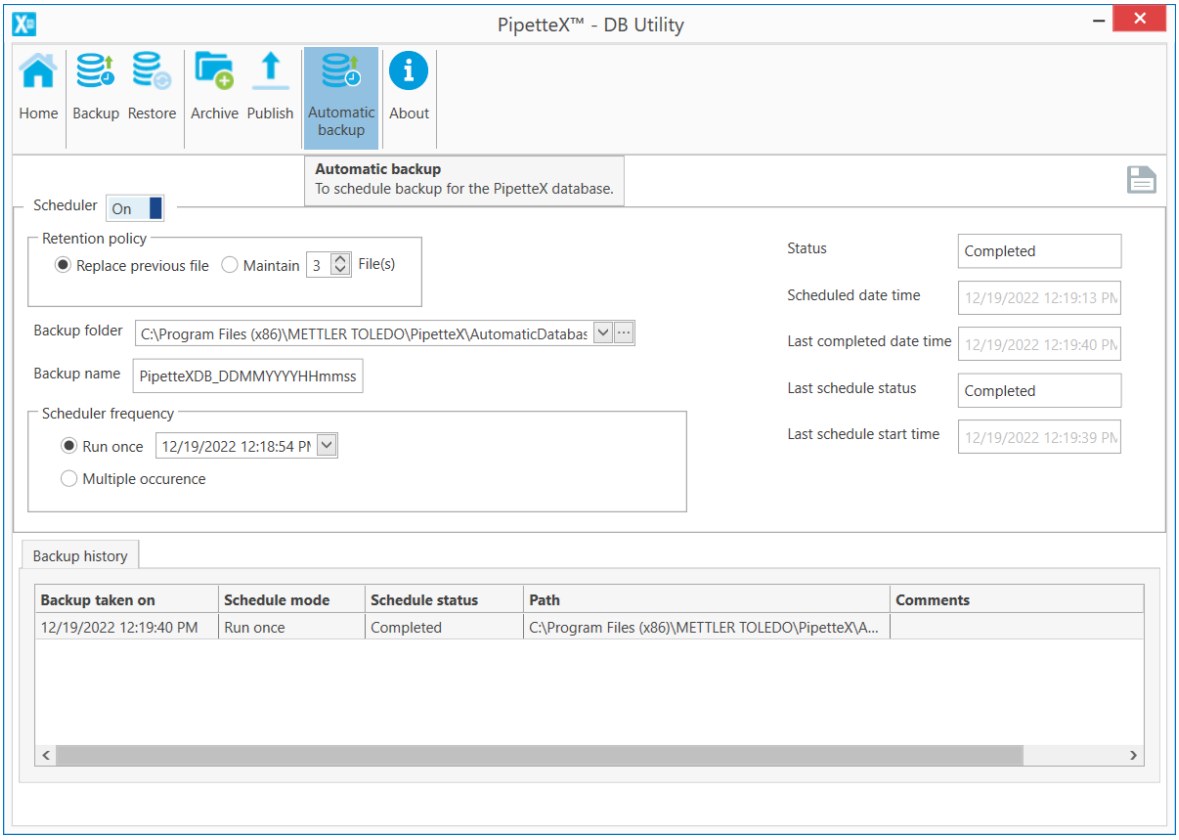
To publish an archived DB again to PipetteX, click on the publish icon and select the file you want to publish. In PipetteX you can now see the archived data such as **Certificate**, **Usage frequency**, etc.

Note

- If you decide to archive data, it will no longer be available for editing in PipetteX.

10.1.3 Automatic backup

By clicking the **Automatic backup** icon, the following options are available:



- **Scheduler**: if you switch this on, you can schedule the automatic backup for the PipetteX database.
- **Retention policy**:
  - **Replace previous file**: by selecting this, you can replace the last backup file.
  - **Maintain File(s)**: by selecting this, you can maintain the previously generated backup files. You can maintain up to 30 backup files.
- **Backup folder**: this is the default path. You can pick your own path if needed (ensure that the path can be written too).
- **Backup name**: the naming convention is automatically populated in the format PipetteXDB_DDMMYY-HHmmss.
- **Status**: the status of the last generated backup file.
- **Scheduled date time**: the date and time when the backup was last scheduled is automatically populated.
- **Last completed date time**: the date and time when the backup was last completed is automatically populated.
- **Last schedule status**: the status of the last scheduled backup is automatically populated.
- **Last schedule start time**: the start date and time of the last scheduled backup is automatically populated.
- **Scheduler frequency**:
  - **Run once**: select the date and time to schedule backup from the drop-down list.
  - **Multiple occurrence**: by selecting this, you can schedule the backup on a daily, weekly, monthly, or quarterly basis.
- **Backup history**: a list of all the backup files is displayed.

In the end, click save and the file is generated.

The backed-up database can be restored by using the PipetteX - DB Utility tool. Before performing the restore operation, please ensure the PipetteX application is not open and that no background operation is happening with the database. Any ongoing operations at this stage may result in loss of data.

10.2 Installation Checker

With PipetteX the installation checker is also installed. This is a very useful tool to check whether PipetteX is installed correctly and whether all parts of the software are working properly. For validation purposes, the installation checker can quickly verify the setup of the system.

The installation checker can be found under: C:\Program Files (x86)\METTLER TOLEDO\PipetteX\

The installation checker checks six areas:

1. The installation checker itself
2. The system
3. The network
4. The database
5. The application
6. Other aspects (MS Office installed and what version, PDF creator installed, .Net frameworks)

To perform a system check,

1 Click on the Check System icon.

2 Choose your setup and what you would like to check.

3 Click **Check System**.

You can save and/or print the report.

11 Log Files

PipetteX logs every change made to the data, system settings, or peripheral settings in the software and makes this available in a readable format. Log files can be retrieved through the installation checker. Open the installation checker (see section [Installation Checker ▸ Page 147]) and click the zip log files  icon. Define your location and you will store all log files in one zipped folder.

Different log files are stored in different locations:

PipetteX Business server:

- Asset delete
- Certificates
- Licensing
- Updates
- Logging

Client:

- Import/export
- Instruments
- Logging
- Config

To get the log files, you have to run the installation checker either in the business server environment or the client.

12 Appendix

12.1 User Rights

Assets Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Activate retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Certificates	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Edit corrupted RFID tag	Yes	-	-	No	-	-	No	-	-	No	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Export usage history	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Import data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Link Smart Tag	Yes	-		Yes			No			Yes		
Non-labeled certificates	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Print	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Refresh sync	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Settings	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Setup new RFID tag	Yes	-	-	No	-	-	No	-	-	No	-	-
View archives	Yes	-	-	No	-	-	No	-	-	No	-	-
View retired records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Fields:												
Address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Age of asset	-	Yes	No	-	Yes	No	-	No	No	-	Yes	No
Asset category	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Asset group	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset type	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Channels	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
City	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Country	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Custom fields (additional information)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Custom fields (RFID)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Customize custom fields	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Date placed into service	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Depreciable Item	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Firmware version	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Full name	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Lab regulation level	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Lab battery change date	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Last calibration date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Last routine test date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Last seen (time)	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Last seen location (reader)	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Last service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Lifecycle position [%]	-	Yes	No	-	Yes	No	-	No	No	-	Yes	No
Lifetime (months)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Manufacturer	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Manufacturing date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Model number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Next calibration date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Next routine test date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Next service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Nominal volume [µl]	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Process tolerance [T%]	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Purchase value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Reader location	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
RFID enabled	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
RFID UID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Routine test method	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Salvage value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Serial number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
SOP #	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
State	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Test plan	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Update pipette structure	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Usage frequency	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
User email	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
User ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
User phone	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Volume settings	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Warning period length for chart	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Warranty expiration date	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Zip code	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Asset Group Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-

Balances Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Certificates	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Firmware update	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Standalone SmartCheck	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
View archives	Yes			No			No			No		
View retired records	Yes			Yes			No			Yes		
Fields:												
Address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Age of Asset	-	Yes	No	-	Yes	No	-	No	No	-	Yes	No
Asset category	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Asset group	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset type	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
City	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Connected gateway	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Country	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Date place into service	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Depreciable item	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Firmware version	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Full name	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
IP address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Lab regulation level	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Last routine test date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Last service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Lifecycle position [%]	-	Yes	No	-	Yes	No	-	No	No	-	Yes	No
Lifetime (months)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Manufacturer	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Manufacturing date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Model number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Next routine test date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Next service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Process tolerance [T%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Purchase value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Salvage value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Serial number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
SOP #	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
State	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
System mode	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Test plan	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	No
Usage frequency	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
User email	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
User ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
User phone	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Warranty expiration date	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Zip code	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Readers Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Firmware update	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Sync date and time with stand	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Fields:												
Address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Calibration alarm settings	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
City	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Connected gateway	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Country	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Date format	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Date/Time	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Display brightness	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Dwell screen ON time	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Firmware version	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Historical count log	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Local modification lockout	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Manufacturer	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Model number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Pipette 1	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Pipette 2	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Pipette 3	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Pipette 4	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
RFID read-out stability period (seconds)	-	Yes	Yes	-	Yes	No	-	No	No	-	Yes	Yes
Serial number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
State	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Sync date and time with stand	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Time format	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Wireless connectivity frequency (seconds)	-	Yes	Yes	-	Yes	No	-	No	No	-	Yes	Yes
Zip code	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Gateways Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add gateway	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Retire gateway	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Fields:												
Address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
City	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Connected RFID reader	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Connected SmartCheck	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Country	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
IP address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Manufacturer	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Model number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Serial number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
State	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Zip code	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Lab Regulation Level - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-

LabX Config Details Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-
See All records	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Fields:												
Auto sync interval minutes	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Created by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Created on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Date format	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Default interval	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Events	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
LabX certificate folder path	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
LabX instance name	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
LabX successful data retrieval	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Last sync time	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Service PC full name/ User principal name	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Service URL	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Status	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Time zone	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No

Method Cards Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Edit/Bulk Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Erase card	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Fields:												

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Address	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset category		Yes	Yes		Yes	Yes		Yes	No		Yes	No
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
City	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Country	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Full name	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Interval (days)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Manufacturer	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Method category	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Method specification	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Method type	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Model number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Nominal volume (µl)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
RFID UID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Routine test method	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
SOP #	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
State	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Test plan	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
User email	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
User ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
User phone	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Zip code	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Methods Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Import data	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
View retired records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Activate retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Fields:												
Asset category	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Block device when failed	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Created by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Created on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Evaporation trap required [Y/N]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method category	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method definition	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method type	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method version	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Nominal weight (gram)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Number of measurements	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Process tolerance [T%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Repeat test when failed	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Review comments	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Reviewed by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Reviewed on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
SOP #	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	No	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Volume 1 [%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Volume 2 [%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Volume 3 [%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No

Note

By default, the **Method ID** is shown when edit permission for all fields is removed. If you remove all the fields, you cannot add fields via column chooser.

Address Management Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Retire	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Import data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Activate retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
View retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Fields:												
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Assign users	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Bill-to number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Building	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
City	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Country	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Floor	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Name 1	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Name 2	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Room	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Ship-to number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Sold-to number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
State	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Status	-	Yes	N/A	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Street 1	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Street 2	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Street 3	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	No	-	Yes	No
Test plan	-	Yes	N/A	-	Yes	N/A	-	Yes	No	-	Yes	No
Workplace	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Zip Code	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
User	-	Yes	Yes	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A

Note

By default, the **Address ID** field will be shown when edit permission for all fields is removed. If you remove all the fields, you cannot add fields via column chooser.

User Management Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	No	-	-	No	-	-	No	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Retire	Yes	-	-	No	-	-	No	-	-	No	-	-
See Lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Activate retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Export data	Yes	-	-	No	-	-	No	-	-	No	-	-
Import data	Yes	-	-	No	-	-	No	-	-	No	-	-
Link Usercard	Yes	-	-	No	-	-	No	-	-	No	-	-
Print	Yes	-	-	No	-	-	No	-	-	Yes	-	-

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Reset password	Yes	-	-	No	-	-	No	-	-	No	-	-
View retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Fields:												
AD User	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Address ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
First name	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Last name	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Password	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Role ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Search Active Directory	-	Yes	Yes	-	Yes	No	-	No	No	-	Yes	No
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
User email	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
User ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
User phone	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No

Note

Only an **Admin** role can edit the password of other users.

User Qualification Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
View latest/all records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Perform test	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Fields:												
Warning period length for chart	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Qualification interval	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
User	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User role	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User email ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Qualification date	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Next qualification date	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Certificate number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
File	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Status	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Trainer	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Trainer company	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Trainer role	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Trainer email ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Document source	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Result	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Comments	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Approved on	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Approved by	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Approval comments	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Obsoleted on	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Obsoleted by	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Reason	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Reviewed on	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Reviewed by	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Review comments	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A

Role Configuration Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	No	-	-	No	-	-	No	-	-
Edit/Bulk edit	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Retire	Yes	-	-	No	-	-	No	-	-	No	-	-
Activate retired records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Print	Yes	-	-	No	-	-	No	-	-	Yes	-	-
View retired records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Fields:												
Inherited from	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Role ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Note

Role ID and **Inherited from** is only possible while adding role irrespective of edit action.

General Settings Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Print	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Fields:												
Language	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
METTLER TOLEDO data sync refresh rate (hrs)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Retention duration (years)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Retention for archive	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Tray Notifications	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes

Security Settings Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Fields:												
Active directory authentication	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Deactivate account after failed login	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Password management	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Screen lock	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
User management	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

Notifications Settings Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Fields:												
Alerts settings	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Enable/disable notifications	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Settings validation	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
SMTP mail server settings	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

Policy Settings Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Edit	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Policies	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Fields:												
Change policy	-	Yes	Yes	-	No	No	-	No	No	-	Yes	Yes
E-Sign policy	-	Yes	Yes	-	No	No	-	No	No	-	Yes	Yes
Release policy	-	Yes	Yes	-	No	No	-	No	No	-	Yes	Yes
Routine test policy	-	Yes	Yes	-	No	No	-	No	No	-	Yes	Yes

Export Scheduler Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Perform export	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Perform firmware update	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Scheduler view	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Fields:												
Created by	-	Yes	No	-	Yes	No	-	No	No	-	No	No
Created on	-	Yes	No	-	Yes	No	-	No	No	-	No	No
Last completed time	-	Yes	No	-	Yes	No	-	No	No	-	No	No
Last schedule start time	-	Yes	No	-	Yes	No	-	No	No	-	No	No
Last schedule status	-	Yes	No	-	Yes	No	-	No	No	-	No	No
Schedule history	-	Yes	No	-	Yes	No	-	No	No	-	No	No
Schedule ID	-	Yes	Yes	-	Yes	Yes	-	No	No	-	No	No
Schedule type	-	Yes	Yes	-	Yes	Yes	-	No	No	-	No	No
Scheduled date and time	-	Yes	Yes	-	Yes	Yes	-	No	No	-	No	No
Status	-	Yes	No	-	Yes	No	-	No	No	-	No	No
System ID	-	Yes	No	-	Yes	No	-	No	No	-	No	No

License Manager Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
License Manager	-	Yes	-	-	No	-	-	No	-	-	No	-

Documents Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add / Edit routine test document	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Add / Edit service document	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Perform test	Yes	-	-	Yes	-	-	Yes	-	-	No	-	-
Fields:												
As-found result	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
As-left result	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Asset ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Certificate number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Comments	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Commented by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Commented on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Documents and files	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Expansion Factor (k)	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
File	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
File name	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Interval (days)	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Manufacturer	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Method ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Model number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Obsoleted by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Obsoleted on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Performed by	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Performed on	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Performed on channel	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Process tolerance [T%]	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Reason	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Review comments	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Reviewed by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Reviewed on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Serial number	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Spare parts used	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Test uncertainty U (%)	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Test volume (µl)	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Type of work	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Uploaded by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Uploaded on	-	Yes	No	-	Yes	Yes	-	Yes	No	-	Yes	No

Note

By default, the **File** is shown when edit permission for all fields is removed. If all the fields are removed, you cannot add fields via column chooser.

Non-labeled Documents Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Retire	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Link certificate to pipette	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-

Event Viewer - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Screen rights:												
Event viewer	Yes	-	-	Yes	-	-	Yes	-	-	No	-	-
Functions:												
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-

Audit Trail - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Screen rights:												
Audit Trail view	Yes	-	-	Yes	-	-	No	-	-	No	-	-

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Print	Yes	-	-	Yes	-	-	No	-	-	No	-	-
View archives	Yes			Yes			No			No		
Show rights:												
Action type	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Category	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Description	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Executed on	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Reason	-	Yes	-	-	Yes	-	-	No	-	-	Yes	-
Record time	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Review comments	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Reviewed by	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Reviewed on	-	Yes	-	-	Yes	-	-	No	-	-	No	-
System ID	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Transaction ID	-	Yes	-	-	Yes	-	-	No	-	-	No	-
User ID	-	Yes	-	-	Yes	-	-	No	-	-	No	-
UTC Record time	-	Yes	-	-	Yes	-	-	No	-	-	No	-

Note

By default, the **Category** field is shown when edit permission for all fields is removed. If all the fields are removed, you cannot add fields via column chooser.

Test Plan - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**	**Allow**	**Show**	**Edit**
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All Records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Push to address	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
View retired records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Show rights:												
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset category	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Created by	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
Created on	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
SOP #	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Status	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No
System ID	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Test plan ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Version	-	Yes	No	-	Yes	No	-	Yes	No	-	Yes	No

Comments Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-

Reason Screen - Default Permissions

	Admin			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Functions:												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Save	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-

12.2 Errors and Solutions

Error messages in PipetteX

Section	Error Message	Reason	Solution
User accounts	The user does not exist.	The entered user is not available.	Create the user account.
User accounts	The password you have entered is expired. Please reset the password and try again.	The password has expired.	Reset the password.
User accounts	The user account is not activated yet. Please activate the user account and try again.	The user account has not logged in yet after the account was created.	Login to PipetteX in order activate the user account.
User accounts	Active directory login is restricted. Please try again with a non-Active Directory user account.	The active directory is disabled.	Enable Active directory in the setting windows in order to login with an active directory user account.

Section	Error Message	Reason	Solution
User accounts	Too many failed login attempts. Your account has been blocked. Please contact your PipetteX system admin to unblock your account.	The account is blocked due to too many wrong password attempts.	Contact the PipetteX administrator to reset the user account.
User accounts	The user account {0} is inactive. Contact your administrator.	The user account is inactive.	Contact the PipetteX administrator to activate the user account.
User accounts	The user account {0} is retired. Contact your administrator.	The user account is retired.	Contact the PipetteX administrator to create a new account.
Asset	{0} cannot be empty.	Mandatory fields	Fill out a value
Asset	Insufficient access rights. You lack the rights to change information on Some/all of the designated records.	Your user profile misses the rights to change asset information	Contact your Admin
Asset	Invalid pipette data.	This happens while writing the pipette data to an RFID tag and one of the fields is not meeting the RFID layout specification.	Please check the values are entered correctly in the RFID fields and fulfill the criteria as set under field settings on the asset tab.
Asset	Pipette serial number does not match.	The user enters the serial number for a new E4 pipette, but the serial numbers are not matching	Enter same serial numbers in both the places
Asset	Pipette with serial number '{0}' already exists.	PipetteX does not accept the same serial number twice	Check whether the serial number is correct. If yes, please check the other serial number and find a solution to prevent duplicates
Asset	Serial number cannot be empty.	The pipette serial number is empty	Serial number is a mandatory field to add asset data.
Asset	Write failed.	The data from PipetteX cannot be written to the RFID Tag of the Pipette	Remove the pipette from the RFID reader or SmartStand and hold it over the reader again to initiate a new read/write cycle.
Asset	SmartTag linked to other pipette.	The SmartTag you trying to link is already linked with another pipette.	Use a new SmartTag to link to the pipette.
Asset	No SmartTag detected	The device cannot detect any SmartTag for linking	Place the valid SmartTag on the RFID reader or place the SmartTag properly on the RFID reader.

Section	Error Message	Reason	Solution
Asset configuration	Date placed in service cannot be before manufacturing date.	Per default, the placed in service date should be after the manufacturing date	Change the date to a date after the manufacturing date
Asset configuration	Date placed in service cannot be in the future	Per default, the placed in service date should be in the past and cannot be in the future	Change the date to a date in the past
Asset configuration	Error occurred while saving the data. Please try again!	For some reason the data could not be saved	Please try again to save the data
Asset configuration	Manufacturing date cannot be in the future.	Per default, the manufacturing date should be in the past and cannot be in the future	Change the date to a date in the past
Asset configuration	Next calibration date cannot be earlier than Last calibration date.	Next calibration date cannot be earlier than Last calibration date	Change either the last calibration date or pick the right next calibration date
Asset configuration	Next service date cannot be earlier than Last service date.	Next service date cannot be earlier than Last service date	Change either the last service date or pick the right next service date
Asset configuration	Remaining bytes cannot be less than zero.	In total, there are 126 bytes of free memory, divided over 4 fields. One cannot divide more than 126 bytes of memory in field lengths across the 4 fields	Redefine the field lengths so the total sums up to 126 bytes of field length
Asset configuration	The RFID structure update is not possible, as the total number of bytes has been exceeded. Please reduce the amount of characters per field.	In total, there are 126 bytes of free memory, divided over 4 fields. One cannot divide more than 126 bytes of memory in field lengths across the 4 fields	Redefine the field lengths so the total sums up to 126 bytes of field length
Asset Import	The Pipette data at row "XX" is found to be unchanged when compared to the system, the record has been ignored for importing	PipetteX does not allow to import the retired Pipette when the release policy is enabled.	Add the retired pipette manually in the Asset tab.
Bluetooth	Authentication out of band error.	Pairing not successful	Retry pairing.

Section	Error Message	Reason	Solution
Bluetooth	Failed to pair with the device.	Pairing not successful	There are multiple scenarios to resolve this error, Follow one or more of the below steps: 1) Try to pair the SmartStand using Windows (using the Add Bluetooth Device functionality in Windows), if passed then try to connect to the SmartStand following the "adding a SmartStand" procedure in PipetteX. If unsuccessful with step 1, then follow any of the below steps. 2) Check if the Bluetooth driver is installed correctly 3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤1.1.1.0) 4) Restart the PC and try again 5) Factory reset the smart stand and try again 6) Power off the smart stand and power on and try again.
Bluetooth	Legacy authenti-cation error	Pairing not successful	There are multiple scenarios to resolve this error, Follow one or more of the below steps: 1) Try to pair the SmartStand using Windows (using the Add Bluetooth Device functionality in Windows); if passed then try to connect to the SmartStand following the "adding a SmartStand" procedure in PipetteX. If unsuccessful with step 1, then follow any of the below steps. 2) Check the Bluetooth driver is installed correctly 3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0) 4) Restart the PC and try again 5) Factory reset the smart stand and try again 6) Power off the smart stand and power on and try again.

Section	Error Message	Reason	Solution
Bluetooth	Numeric comparison error	Pairing not successful	There are multiple scenarios to resolve this error, Follow one or more of the below steps: 1) Try to pair the SmartStand using Windows (using the Add Bluetooth Device functionality in Windows); if passed then try to connect to the SmartStand following the "adding a SmartStand" procedure in PipetteX. If unsuccessful with step 1, then follow any of the below steps. 2) Check the Bluetooth driver is installed correctly 3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0) 4) Restart the PC and try again 5) Factory reset the smart stand and try again 6) Power off the smart stand and power on and try again.
Bluetooth	Pass key error	Pairing not successful	There are multiple scenarios to resolve this error, Follow one or more of the below steps: 1) Try to pair the SmartStand using Windows (using the Add Bluetooth Device functionality in Windows); if passed then try to connect to the SmartStand following the "adding a SmartStand" procedure in PipetteX. If unsuccessful with step 1, then follow any of the below steps. 2) Check the Bluetooth driver is installed correctly 3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0) 4) Restart the PC and try again 5) Factory reset the smart stand and try again 6) Power off the smart stand and power on and try again.

Section	Error Message	Reason	Solution
Bluetooth	Pass key notification error	Pairing not successful	There are multiple scenarios to resolve this error, Follow one or more of the below steps: 1) Try to pair the SmartStand using Windows (using the Add Bluetooth Device functionality in Windows); if passed then try to connect to the SmartStand following the "adding a SmartStand" procedure in PipetteX. If unsuccessful with step 1, then follow any of the below steps. 2) Check the Bluetooth driver is installed correctly 3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0) 4) Restart the PC and try again 5) Factory reset the smart stand and try again 6) Power off the smart stand and power on and try again.
Bluetooth	Response not received from the instrument	Time-out in the communication between SmartStand and the software	Retry the pairing process.
Business Server	Database creation failed	You do not have the rights to create a database when installing the PipetteX business server	Check with your IT Admin whether the user has the IT rights to create a SQL database on the PC, he is trying to install on.
Business Server	Error occurred	This is generic message when the error is unknown	If this error occurs, please repeat the previous steps.
Certificates – Asset	Files larger than 10MB and/or in executable format have been removed.	PipetteX typically does not handle files larger than 10MB	Decrease the file size or make the file format executable
Certificates – Asset	Saving failed for the listed document(s). Please try again!	PipetteX could not save the documents	Please try again to save the data
Certificates – Asset	The file {0} cannot be found.	A link to the file has been broken	Either delete the file or move the original file back to the certificate folder
Certificates – Asset	Certificate server could not be connected	The certificate server URL is not working or some network issue	Check the network connection of your business server.
Certificates – Asset	Invalid or outdated license information	License has expired or is not activated	Buy a new license key and/or activate the license.

Section	Error Message	Reason	Solution
Certificates – Asset	Demo license detected: The requested functionality is not available for demo licenses.	Demo licenses do not have full functionality. Check the installation instructions on functionality per license edition.	Buy the required license edition to fulfill your functionality requirements.
Certificates – Asset	'Not For Sale' license detected: The requested functionality is not available for 'Not For Sale' license	Not for sale licenses do not have full functionality, Check the installation instructions on functionality per license edition.	Buy the required license edition to fulfill your functionality requirements.
Certificates – Asset	Problem while validating pipette ownership. Error ID {0}	Exception occurred on the calibration certificate server site	Contact METTLER TOLEDO technical support and provide the Error ID
Certificates – Asset	Problem while getting pipette service information. Error ID {0}	Exception occurred on the calibration certificate server site	Contact METTLER TOLEDO technical support and provide the Error ID
Certificates – Asset	Problem while getting certificate information. Error ID {0}	Exception occurred on the calibration certificate server site	Contact METTLER TOLEDO technical support and provide the Error ID
Certificates – Asset	Problem while validating pipette ownership. Error ID: Level5 - Not Validated	The calibration certificate server is not able to validate the pipette	Contact METTLER TOLEDO technical support and provide the Error ID
Certificates – Asset	Start edition license does not retrieve pipette service and certificates	The start edition license does not retrieve pipette service certificates	Buy a different license edition key and activate it.
Certificates – Asset	Pipettes without a test plan cannot be routine tested. Assign a test plan first.	Pipette has no test plan	Assign the test plan to the pipette to perform routine test.
Certificates – Asset	No method with process tolerance has be assigned to the Pipette. Therefore no routine test measuring tolerance can be performed.	Pipette has not been assigned a process tolerance method	Assign a process tolerance method to the Pipette to perform routine test.
Certificates – Asset	SmartCheck device is either offline, blocked, connected via gateway (or) connected to another client.	SmartCheck is either offline, connected to a gateway, and/or connected to another client	Ensure that the connected SmartCheck device is online and connected to the same PC.

Section	Error Message	Reason	Solution
Certificates – Asset	SmartCheck container is full.	When the vessel is full.	Empty the vessel in the SmartCheck and start the routine test.
Certificates – Asset	SmartCheck container over loaded.	When the SmartCheck vessel is overloaded.	Ensure that the SmartCheck is loaded with appropriate weight.
Certificates – Asset	No container or under load detected in load cell.	When the SmartCheck vessel is not available.	Ensure that you place the vessel/load properly in the SmartCheck.
Certificates – Asset	No feedback received from the SmartCheck.	SmartCheck does not respond properly when the routine test is triggered.	Ensure nothing is wrong with the SmartCheck and the lights are green. Retry the routine test process
Certificates – Asset	The load cell of SmartCheck is unstable	SmartCheck is placed on an unstable surface.	Ensure that you place the SmartCheck on a stable surface.
Certificates – Asset	Pipette routine test cannot be performed using the selected SmartCheck device. The SmartCheck did not pass its routine test.	When the selected SmartCheck device routine test is failed.	Ensure that the routine test of the SmartCheck is performed and passed.
Certificates – Asset	Routine test cannot be performed for the pipette in blocked or lost status.	When the selected pipette is blocked or lost.	Ensure the pipette is not in blocked or lost status.
Certificates – Asset	Routine test cannot be performed using the SmartCheck connected to other client(s).	SmartCheck is owned or connected to another client.	The SmartCheck has to be owned/ assigned to the same client.
Certificates-Balance	Files larger than 10MB and/or in executable format have been removed.	PipetteX typically does not handle files larger than 10MB	Please decrease the file size or make the file format executable
Certificates-Balance	Saving failed for the listed document(s). Please try again!	PipetteX could not save the documents.	Please try again to save the data.
Certificates-Balance	The file {0} cannot be found.	A link to the file has been broken.	Either delete the file or move the original file back to the certificate folder.
Certificates-Balance	Repeatability test cannot be performed without Repeatability method	The SmartCheck does not contain the Repeatability method.	Ensure the Repeatability method is assigned to the SmartCheck.
Certificates-Balance	Repeatability test cannot be performed for the SmartCheck connected via gateway.	Repeatability test cannot be performed for the SmartCheck which is connected via gateway.	The SmartCheck has to be connected to the same PC.

Section	Error Message	Reason	Solution
Bulk Edit – Asset	All of the selected documents are signed, hence cannot edit the document.	Signed documents cannot be edited.	Select only the unsigned documents to edit.
Bulk Edit – Asset	Current selection has both signed and unsigned documents, please select signed or unsigned documents alone to edit.	Signed documents cannot be edited.	Select only the unsigned documents to edit.
Bulk Edit – Asset	Work type of currently selected documents are different from each other, please select the documents of same type to edit.	Documents of different work type is edited.	Select the documents of same work type.
Bulk Edit – Asset	Documents from GPSS, Balance, SmartCheck are selected along with manually added documents, please select the documents of same source to edit.	Documents of different source is edited.	Select the documents of the same source.
Bulk Edit – Asset	Current selection contains obsoleted documents, please unselect those documents to edit.	The obsoleted documents cannot be edited.	Select the documents that are in active state.
Bulk Edit – Balance	All of the selected documents are signed, hence cannot edit the document.	Signed documents cannot be edited.	Select only the unsigned documents to edit.
Bulk Edit – Balance	Current selection has both signed and unsigned documents, please select signed or unsigned documents alone to edit.	Signed documents cannot be edited.	Select only the unsigned documents to edit.
Bulk Edit – Balance	Work type of currently selected documents are different from each other, please select the documents of same type to edit.	Documents of different work type is edited.	Select the documents of same work type.

Section	Error Message	Reason	Solution
Bulk Edit – Balance	Current selection contains obsoleted documents, please unselect those documents to edit.	The obsoleted documents cannot be edited.	Select only the documents that are in an active state.
PipetteX UI	Connection attempt to PipetteX service timed out.	You are either not connected to the company network or your PipetteX business server is down.	Make sure you are connected to the corporate network (if this requires a VPN, please make sure it is active). Try connecting again. If the issue remains, check with your IT admin on the setup.
PipetteX UI	Unable to connect to database.	You are either not connected to the company network or your PipetteX database server is down	Make sure you are connected to the company network (if this requires a VPN connection, make sure it is active). In case the PipetteX database server is down, check with your IT admin on the setup and whether the PC on which the database server installed is running
PipetteX UI	Unable to connect to PipetteX business server.	You are either not connected to the company network or your PipetteX business server is down	Make sure you are connected to the company network (if this requires a VPN connection, make sure it is active). In case the PipetteX business server is down, check with your IT admin on the setup and whether the PC on which the business server is installed is running
PipetteX UI	Unable to connect to PipetteX server	This happens when the instrument service running in the client PC is stopped	Please start the instrument service. Go to Windows Search (either in the taskbar (W10) or in the Windows Start menu) and type in "services". Search for the PipetteX Instrument Service and check whether it is running. If yes, try to restart the service.
Help	Help file not found.	Broken link to the Help PDF file	Go to www.mt.com/rainin-sstanddocs and download the document.
Help	Please install 'PDF Reader' to view the help file.	No PDF read tool installed on your PC	Go to https://get.adobe.com/reader and download a free PDF viewer to your PC.
Import/ Export	Error in processing the Excel file!	Could be several Windows related issues	Restart the importing / exporting process.
Import/ Export	File is currently in use! Please close and try again.	To import correctly, you have to close the file prior to importing.	Close the file and retry to import.
Import/ Export	No valid records found for importing!	None of the records in the asset import list was valid for import.	Check the mandatory fields, marked with * on the import/export screen. Ensure the fields in your Excel file contain valid values and try again.
Import/ Export	The file contains invalid values mapped to pipette fields!	PipetteX only allows ASCI characters	Remove any non-ASCI characters from the import file and try importing again.
Import/ Export	The selected file is an invalid Excel file!	The selected file is an invalid Excel file!	Save the Excel file again with a different name and retry importing/exporting.

Section	Error Message	Reason	Solution
Import/ Export	The selected file is empty.	The import file cannot be empty to have a successful import	Update your import file or select a filled out import file.
Import/ Export	The selected file was not found.	Your import / export file could not be found in the specified file location.	Re-specify the file location and try importing / exporting again.
Import/ Export	There was a problem while updating the selected file!	PipetteX could not export its data to the file you selected.	Re-initiate the export procedure or try a different file location to export.
Firmware Update-SmartStand	The SmartStand is returning the following error: Entering download mode	The firmware is being downloaded.	Wait till the firmware update process has finished. Do not disconnect the SmartStand.
Firmware Update-SmartStand	The SmartStand is returning the following error: Firmware already updated	The firmware is already updated.	The Smartstand's firmware is up to date.
Firmware Update-SmartStand	The SmartStand is returning the following error: Invalid data	The firmware is not supported.	Ensure that the selected firmware file is valid one.
Firmware Update-SmartStand	The SmartStand is returning the following error: TimeOut	The firmware update has failed/ unable to update.	Restart the process
Firmware Update-SmartStand	The SmartStand is returning the following error: Unknown	The firmware update has failed.	Restart the process
Firmware Update-SmartCheck	The SmartCheck is returning the following error: InvalidData	The selected firmware is invalid.	Ensure that the selected firmware file is valid one.
Firmware Update-SmartCheck	The SmartCheck is returning the following error: TimeOut	The firmware update has failed.	Restart the process
Firmware Update-SmartCheck	The SmartCheck is returning the following error: Unknown	The firmware update has failed.	Restart the process
DB Utility	The version in the selected backup (x.x.x.x) is higher than the installed product version (x.x.x.x)	The selected DB version is greater than the installed DB	Ensure the selected DB file version is lesser than or equal to the installed version.

Section	Error Message	Reason	Solution
DB Utility	Unable to complete database backup. Refer log file for details.	The user does not have permission to perform this action.	Ensure the user has the appropriate user rights.
DB Utility	Unable to complete the database restore operation. Refer log file for details.	The database to be restored, is currently in use.	The Business and Audit trail service has to be stopped before restore operation.

12.3 Synchronization of date and time

The date and time of the connected instruments are synchronized with the PipetteX to which the instruments communicate every time a connection is made and every time a task is started.

PipetteX requires an infrastructure that ensures that the time on all components is correct. Ensure that the **Windows Time Service** is configured correctly for all involved components.

▶ https://docs.microsoft.com/en-us/windows-server/networking/windows-time-service/how-the-windows-time-service-works

12.3.1 Time zones

PipetteX can be installed and operated in any time zone of your choice. All components of a PipetteX system (Database, Business Server, Instrument Servers, DB Maintenance, LabX Server, and Clients) can be located in different time zones. However, there is a delay in application response time based on the network speed.

PipetteX supports changes in your local time due to daylight saving time in your time zone. This time change does not affect the times displayed in your data.

GUI

All times are stored with time zone information in the PipetteX database but are displayed in the client's local time of the PipetteX system without specifying the time zone.

The date and time displayed for the following fields are based on the business server:

- **Last service date**
- **Next service date**
- **Last calibration date**
- **Next calibration date**
- **Last routine test date**
- **Next routine test date**

Audit trail

In the audit trail, the UTC time is displayed for all entries in addition to the other date and time fields that show the time of actions undertaken by the user.

Export

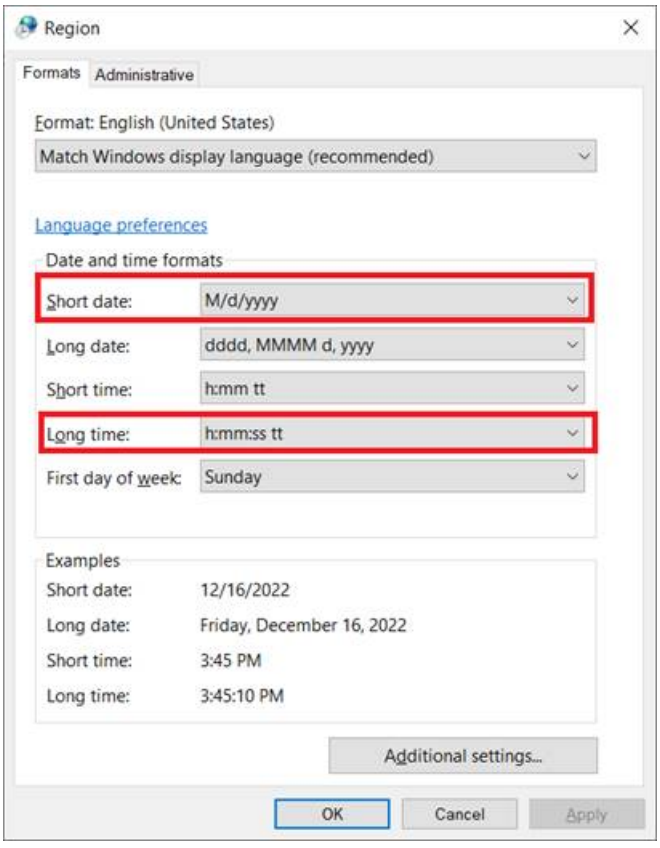
The date and time are exported as shown in PipetteX, but Excel will format it based on the system settings.

Print

The date and time are exported as shown in PipetteX.

Date and time format

The data and time format in PipetteX (applicable for all screens) is updated based on the PC's date and time format. PipetteX always shows **Short date** and **Long time**, as shown in the image below:



Note

- This applies only to the PipetteX generated page (last page) in the original certificate.
- It is recommended to restart your PC if you change its date and time format.

To protect your product's future:
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