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# 1 Introduction

This guide will help you to get started with PipetteX and explains the main features and functionalities of the software.

## 1.1 Easy and Reliable Data Management

Along with the SmartStand, PipetteX is meant to simplify the management of all your pipettes. The software is designed to work with both METTLER TOLEDO Rainin pipettes as well as with other brands. Simply upload your spreadsheet into PipetteX and manage your assets from there. In conjunction with the SmartStand you can start to track your assets throughout your lab. All SmartStands will connect to PipetteX and you can start measuring usage data of pipettes, and see where pipettes were last seen (helping you locate pipettes when they are due for service). Also, updating your PipetteX database becomes really easy when doing service with METTLER TOLEDO Rainin: service dates get automatically updated after service in PipetteX. No more manual typing needed on your end.

And with the new version all the assets can be stored in a single location so you can share all the assets across your organization. All in a CFR 21p11 compliant manner

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

If you have any additional questions, METTLER TOLEDO Rainin, LLC is always available to assist you. Visit us on:

▶▶ <http://www.mt.com/rainin>

## 1.2 Related Documents

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

▶▶ <http://www.mt.com/rainin-sstanddocs>

## 1.3 End User License Agreement (EULA) and Disclaimer

The applicable EULA agreement, which has to be accepted upon installing PipetteX, can be found on ▶ <http://www.mt.com/eula>. The applicable disclaimer is part of the EULA and can be found under section 5 Warranties and disclaimer.

▶▶ <http://www.mt.com/eula>

## 1.4 Use of Third Party Licenses

PipetteX does use standard components from third parties. An overview of third party licenses can be found on ▶ <http://www.mt.com/licenses>.

▶▶ <http://www.mt.com/licenses>

## 1.5 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 manual	▶ <a href="http://www.mt.com/pipetteX">www.mt.com/pipetteX</a>
System / server configuration	Installation manual	▶ <a href="http://www.mt.com/pipetteX">www.mt.com/pipetteX</a>
System validation (CFR 21p11)	Validation Handbook 1 and 2	▶ <a href="http://www.mt.com/pipetteX">www.mt.com/pipetteX</a>
Security configuration	Whitepaper	On request
Peripherals configuration	Operating manual	▶ <a href="http://www.mt.com/pipetteX">www.mt.com/pipetteX</a>
Trouble shooting	Operating manual	▶ <a href="http://www.mt.com/pipetteX">www.mt.com/pipetteX</a>

In case you have questions about the software there are two handy 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 the manual you are currently reading. The Support button gets you to the PipetteX support website, [www.mt.com/rainin-sstanddocs](http://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.

▶▶ <http://www.mt.com/rainin-sstanddocs>

## 2 Getting Started

We strongly advise you to read the chapters on “considerations before installing” and “getting setup” and to follow the steps in the same order as presented below to make managing your assets a breeze. The steps below assume that you log in PipetteX with administrative privileges. If you have logged in as a different user with no Administrator privileges, you might be limited in what you can see and do with the application. Please refer to the user role reference table in the [Appendix ▶ Page 90] to see what you can do with the role you have been assigned by your administrator.

### 2.1 Considerations before installing

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

#### 2.1.1 What license do I need?

All licenses of PipetteX are subscription based licenses and do expire after 1 year (this includes the free version). All licenses have to be activated after 60 days or else the application will stop working till the activation has happened.

There are 2 types of licenses:

##### Free license:

You can start using this version out of box, but will not have unlocked the full potential 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.

The table below helps you with making the right decision on your license choice as well as IT setup.

Considerations	Free version	Paid version	See also
<b>How many pipettes?</b>	200	1500 or unlimited	Installation manual - Licenses
<b>Routinely verify pipettes?</b>	Connect 5 SmartChecks	200 or unlimited SmartChecks / Balances with full connectivity	Chapter 5 [Configuring the hardware ▶ Page 41]
<b>Speed up your processes?</b>	Connect 5 RFID readers	200 or unlimited readers	Chapter 5 [Configuring the hardware ▶ Page 41]
<b>Need electronic records?</b>	Add manually	Captured automatically	Section 4.1.3 [Automation logic ▶ Page 21]
<b>Require 21 CFR Part 11 compliance?</b>	Not possible	Can be activated as an option	Chapter 3 [Validation ▶ Page 14]
<b>Share PipetteX between multiple labs or locations?</b>	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.	Chapter 7 [Views ▶ Page 84]
<b>What is your strategy to mitigate for data loss?</b>	Frequent manual backups of the local database on the PC	Per your IT back-up policies on your own server.	Section 6.1 [Scheduling ▶ Page 77] Chapter 8 [Utilities ▶ Page 87]

Considerations	Free version	Paid version	See also
<b>Who will administer the system?</b>	PC owner only	In a distributed setup consider an IT Admin (person independent) and potentially sub-admins, so you guarantee continuous system access	Section 5.3 [Users ▶ Page 60]

## 2.1.2 Do I want to routinely test pipettes?

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 according to what methodology you want to test. There are two ways:

### 2.1.2.1 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 4 readings. To test against your process tolerance, you can use either the SmartCheck or the XPE/XSE balance.

#### Note

- Both SmartCheck and XPE/XSE balance 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.

### 2.1.2.2 Test to ISO 8655

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

To test against ISO 8655 specs, you could need up to a 5 or 6 decimal XPE/XSE balance (as per ISO 8655 requirements). The SmartCheck cannot perform an ISO 8655 test.

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

### 2.1.2.3 What hardware do I need

The table below explains the different hardware possibilities you have.

#### SmartCheck hardware configurations

	Standalone	Connected	Autonomous
<b>Method control</b>			
SmartCheck tolerances	•	•	•
Control from method to execution to result		•	•
<b>Result calculation</b>			
Based on pre-set tolerance of SmartCheck	•		
Based on pipette individual tolerances		•	•
<b>Result capture</b>			
Electronic (PipetteX)		•	•
<b>Update next routine test date</b>			
Manual	•		
Automatic		•	•
<b>Hardware requirements</b>			

	Standalone	Connected	Autonomous
SmartCheck	•	•	•
<b>RFID reader</b>			
RFID/LAN gateway		EasyScan USB	EasyScan USB
RFID Tag		Rainin / SmartTag	Rainin / SmartTag
Gateway			Silex Gateway

### XPE/XSE balance configurations

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

#### Note

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

## 2.2 Downloading the Software

The PipetteX software can be downloaded via the URL below. The executable file size is about 700MB and depending on your internet connectivity speed, the download might take between 10-40 minutes. Prior to installing the software, please consult the installation manual, which can be found on:

**PipetteX SW Download:** ►► <http://www.mt.com/pipetex>

**Installation Manual:** ►► <http://www.mt.com/rainin-sstandocs>

## 2.3 Getting setup: Quick and Easy

Getting setup is simple. Depending on your requirements, steps might or might not affect you.

Step	Description	More info
1	Download the software	See section 2.3
2	Install or update	See Installation Manual or See section 2.4
3	Login	See section 2.5
4	Activate your license	See section 2.6
5 (optional)	Consider the validation configurations and validate software	See chapter 3
6	Set up your addresses	See section 6.1
7 (optional)	Set up additional user roles	See section 6.2
8	Set up your users	See section 6.3
9 (optional)	Set up routine test methods	See section 6.4
10 (optional)	Set up test plans	See section 6.5
11 (optional)	Set up your peripherals	See chapter 5
12	Import your assets	See section 6.6
13 (optional)	Release your: <ul style="list-style-type: none"><li>• assets</li><li>• peripherals</li><li>• methods + test plans</li></ul>	See chapter 5
14	Synchronize data	

## 2.4 Upgrading your existing EasyDirect PAM

### 2.4.1 Upgrade from EasyDirect PAM 1.x to PipetteX 3.x

If you are migrating from EasyDirect PAM 1.x, please read through the scenario below to define your path of migration. Otherwise, please continue to [Activating your license ▶ Page 12].

Upgrade path	EDPAM setup prior to upgrade	Recommended license for PipetteX	Actions required
1.x to PipetteX 3.x	Standalone <b>and</b> ≤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. Please note that you cannot export the data from the address tab or users tab. If you have a large database, please contact METTLER TOLEDO Rainin 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 <b>and</b> >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. Please note that you cannot export the data from the address tab or users tab. If you have a large database, please contact METTLER TOLEDO Rainin before continuing. 2 Remove EasyDirect PAM 1.x, including the database. 3 Make sure you purchase the correct license key 4 Install PipetteX 5 Activate your license 6 Import all your assets using the import functionality of PipetteX

### 2.4.2 Upgrade from EasyDirect PAM 2.0 to PipetteX

You can upgrade from EasyDirect PAM 2.x to PipetteX by downloading the software from ▶ <http://www.mt.com/pipetex> and running the .exe file. Your EasyDirect PAM application should automatically migrate to PipetteX.

It is always strongly advised to make a back up of your database prior to running the upgrade.



#### NOTICE

##### Warning: distributed systems

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

- 1 Download PipetteX
- 2 Make a back-up of your database (you can use the DB utility tool for this or run a backup with your SQL tools; see section 9.1 [Database Utility ▶ Page 87])
- 3 Go to your business server environment and run the pipetex.exe file and choose to run
  - a. the business server component
  - b. the database component
  - c. define whether you want to install the Silex Virtual Link light component on your business server (see section 5.4 [Gateway ▶ Page 48] for more info on Silex Virtual Link light component)

- 4 Update every connected client by running the pipettex.exe file and choose to run the client part
- 5 Reconnect every client to your business server using the wizard of PipetteX

#### Note

- When installing a new version of PipetteX (v3.0 and above), the existing database will be automatically upgraded (if applicable).

Once the new version (v3.0 and above) 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 a newer version of PipetteX is available from the **About** window.

## 2.5 Logging in for the first time

There are two ways to get started with PipetteX: Using Single Sign On (SSO) or signing in via manual sign-in.

- If you have never logged in to PipetteX before or you still have to set up PipetteX for the first time, you will have to use the manual sign-in procedure.
  - 1 Manual sign-in is possible either using the desktop shortcut **X** or from the start menu **METTLER TOLEDO > PipetteX/ PipetteX with Login**, when SSO is not configured.
  - 2 Use "Admin" for both user name and password (capital A).
  - 3 Change the password of the default admin account.
  - 4 Consider your account and password policies. See section 7.3.2 [Security ▶ Page 79]
  - 5 If you have activated SSO under **Settings > Security**, you can now start setting up the SSO user accounts for future log-ins.

## 2.6 Activating your license

Please note that you can try each license edition up to 60 days without activating it (this is especially handy to test a distributed setup within your organization). One 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 with the re-use of a key, the installation on the old hardware will get 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.

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

▶▶ <http://www.mt.com/rainin-sstanddocs>

## 2.7 Check for Software Updates

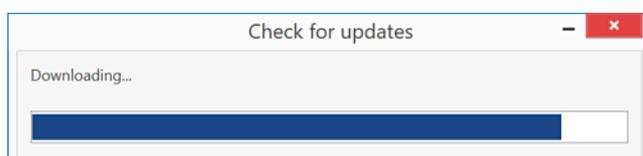
If installed on a PC with internet connection, PipetteX provides the availability to check for a newer version of PipetteX or for a newer software version of the connected SmartStands.

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

The About window appears.

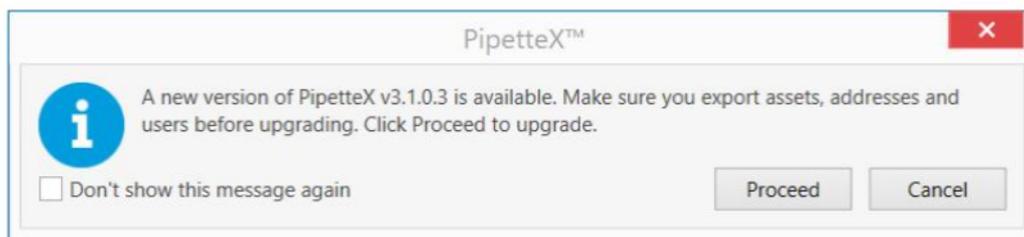
- Click **Check for updates** which can be found below the End User License Agreement link on the Box Dialog.

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

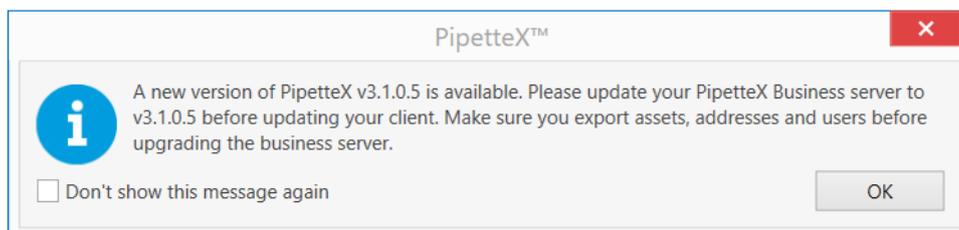


- Click **Yes**, if you want to install the new version of the software.

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



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



### Note

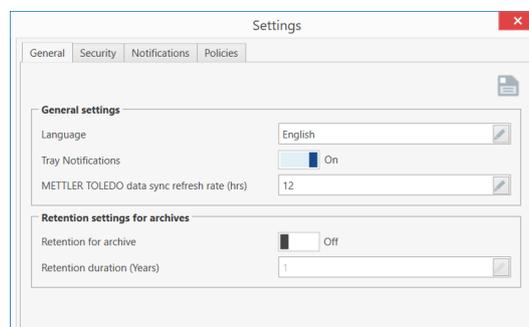
After downloading the update, the setup.exe can be found in "C:\Users\Public\METTLER TOLEDO\PipetteX\PipetteX Update\" folder.

## 2.8 Language Settings

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

To change the language, please follow the steps as outlined below:

- 1 Select **Options** from the ribbon.
  - ➔ The relevant dialog appears.
- 2 Select the language from the drop-down list.
- 3 Choose **Tray Notifications** and **Calibration certificate retrieval refresh rate (hrs)** if applicable.



### 3 Validation

#### 3.1 Validating PipetteX

PipetteX has extensive functionality that supports you to fulfill 21 CFR Part 11 requirements. Some of the functionalities require an additional license, which requires a yearly renewal. For an overview of the different license options, please consult the installation manual

► <http://www.mt.com/rainin-sstanddocs>

Below you 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

Further, 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, please consult the installation manual

► <http://www.mt.com/rainin-sstanddocs>

#### 3.2 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 **Compliance** in the top ribbon. An overview of all system transactions is provided.

UTC Record time	Transaction ID	Category	System ID	Action Type	Description	User ID	Executed on	Reviewed by
2/21/2020 2:59:39...	Trans145	User authentication	EUJdrion-1	Login success	User logged in	EUJdrion-1	CH01WM5Z48JM2	
2/20/2020 2:55:56...	Trans144	User authentication	EUJdrion-1	Login success	User logged in	EUJdrion-1	CH01WM5Z48JM2	
2/20/2020 12:43:5...	Trans143	User authentication	EUJdrion-1	Login success	User logged in	EUJdrion-1	CH01WM5Z48JM2	
2/20/2020 12:43:1...	Trans142	User authentication	EUJdrion-1	Login success	User logged in	EUJdrion-1	CH01WM5Z48JM2	
2/20/2020 12:23:0...	Trans141	User authentication	EUJdrion-1	Login success	User logged in	EUJdrion-1	CH01WM5Z48JM2	
2/20/2020 12:20:4...	Trans140	User authentication	EUJdrion-1	Login success	User logged in	EUJdrion-1	CH01WM5Z48JM2	
2/20/2020 12:20:4...	Trans139	User authentication	Admin	Account locked	Login failed. User a...	Admin	CH01WM5Z48JM2	
2/19/2020 9:46:33...	Trans138	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:46:33...	Trans137	QuickCheck balance	SmartCheck1	SmartCheck modifi...	SmartCheck modifi...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:46:33...	Trans136	Pipette document		Pipette document...	Document added...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:46:33...	Trans135	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:45:49...	Trans134	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:45:49...	Trans133	QuickCheck balance	SmartCheck1	SmartCheck modifi...	SmartCheck modifi...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:45:49...	Trans132	Pipette document		Pipette document...	Document added...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:45:49...	Trans131	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:43:28...	Trans130	QuickCheck balance	SmartCheck1	SmartCheck conne...	SmartCheck conne...	EUJdrion-1	CH01WM5Z48JM2	
2/19/2020 9:43:28...	Trans129	QuickCheck balance	SmartCheck1	SmartCheck conne...	SmartCheck conne...	EUJdrion-1	CH01WM5Z48JM2	
2/19/2020 9:43:28...	Trans128	QuickCheck balance	SmartCheck1	SmartCheck modifi...	SmartCheck modifi...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 9:43:24...	Trans127	Reader	SmartCheck1	Reader firmware u...	Reader firmware u...	EUJdrion-1	CH01WM5Z48JM2	
2/19/2020 9:42:22...	Trans126	QuickCheck balance	SmartCheck1	SmartCheck conne...	SmartCheck conne...	EUJdrion-1	CH01WM5Z48JM2	
2/19/2020 9:42:22...	Trans125	QuickCheck balance	SmartCheck1	SmartCheck conne...	SmartCheck conne...	EUJdrion-1	CH01WM5Z48JM2	
2/19/2020 9:39:46...	Trans124	SmartTag		SmartTag modified	SmartTag modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:51...	Trans123	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:51...	Trans122	QuickCheck balance	SmartCheck1	SmartCheck modifi...	SmartCheck modifi...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:51...	Trans121	Pipette document		Pipette document...	Document added...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:51...	Trans120	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:05...	Trans119	Pipette	Pipette595	Pipette modified	Pipette modified...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:05...	Trans118	QuickCheck balance	SmartCheck1	SmartCheck modifi...	SmartCheck modifi...	SYSTEM	CH01WM5Z48JM2	
2/19/2020 8:26:05...	Trans117	Pipette document		Pipette document...	Document added...	SYSTEM	CH01WM5Z48JM2	

The following functionality is 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 the record in the overview up until where you have reviewed the records. All records up and until the date of this record will get e-signed.
  - Click the e-signature  icon.
  - You can add a comment. If you would like to use pre-defined comments, these would have to be first setup. To do so, consult section 7.2 [Comments ▶ Page 78]
  - Click the e-signature  icon
  - If you have the required user rights, you will now have to identify yourself. User rights are set under policies. Consult section 3.3 [Policies ▶ Page 15] to learn how to set policies.
  - All selected records are marked as reviewed and the columns **Reviewed by** and **Reviewed on** (UTC time zone) are now filled.
- **Simple filtering:**  
By clicking on the  icon, you can quickly filter the view on e.g. records of the last 24hrs, only by your activities, or by type of action.
- **Blending in an archive file:**  
PipetteX allows you to archive data in order to minimize the database size. To do so, you would use the DB utility tool (consult section 9.1 [Database Utility ▶ Page 87]). You can blend the archived data back into your view, by clicking on the  icon. Select the file you want to blend in.  
**Note:** archived records cannot be modified

### 3.3 Policies

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

#### Release policies

For the tabs Assets, Readers, Balances, Methods and Test Plans you can set a release policy. That means that any record that gets recorded on one of those tabs cannot be edited or take measurements without being released. To release the record, the user with the correct user role and the right permission for the address, can release the record. The record remains locked for other users until it has been released

#### e-sign policies

For documents (like certificates or verification reports) an e-sign policy can be made applicable. User with the correct user role and right permission for the address can e-sign the record. On top, one can apply a 4-eye principle in the sense that documents that have been uploaded by a user with e-sign permission, cannot be signed off by the same user (and henceforth require a separate user with e-sign permission to sign-off on the record).

To apply policies, you need to apply two settings:

1. **User rights:** the user needs to be able to manage the policies can see the policies tab. This can be set under user rights (see section 6.2 [User roles ▶ Page 59])
2. **Policy activation:** the policy needs to be active **AND** assigned to the address. This is managed under Settings – Policies. Read below

Please consult section 7.3.4 on how to set up the [policies ▶ Page 15].

### 3.4 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 they performed (time is also applicable with a computerised 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 authorised 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 authorised 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 authorised 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	<ul style="list-style-type: none"> <li>• This role should be allocated to the process owner of the application who typically works in the laboratory.</li> <li>• 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.</li> </ul>
Access to clocks for recording timed events	<ul style="list-style-type: none"> <li>• For networked installations, the system clock is on the server that the PipetteX software is installed upon and should be synchronised 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).</li> <li>• Access to the system clock must be restricted to IT personnel only to prevent time travelling.</li> <li>• 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.</li> </ul>
Accessibility of records at locations where activities take place so that ad hoc data recording and later transcription to official records is not necessary	<ul style="list-style-type: none"> <li>• 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.</li> <li>• If Mettler perform preventative maintenance and calibration of a pipette, the calibration certificate is transferred from the Mettler Calibration system (GPSS) to PipetteX automatically.</li> </ul>
Control over blank paper templates for data recording	<ul style="list-style-type: none"> <li>• Using PipetteX means that issue of controlled blank templates for recording analytical results and associated data from the execution of a method are not required.</li> <li>• Manual entries into a laboratory notebook are eliminated.</li> </ul>
User access rights which prevent (or audit trail) data amendments	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
Automated data capture or printers attached to equipment such as balances	<ul style="list-style-type: none"> <li>• Automated data capture is performed from all instruments connected to PipetteX.</li> <li>• A printer e.g. for an analytical balance should not be required as this would turn an electronic system into a hybrid one.</li> </ul>
Proximity of printers to relevant activities	<ul style="list-style-type: none"> <li>• If required, printouts of analytical reports and database searches from PipetteX can be achieved using existing network printers.</li> <li>• A far better approach is to automate the process, use electronic signatures and eliminate paper.</li> </ul>

Data Integrity Criterion	Implementing for PipetteX v3.x
Avoiding time traveling	<ul style="list-style-type: none"> <li>PipetteX should be installed on a network that should have time synchronisation from a trusted time source.</li> <li>Access to the network clock should be restricted to IT personnel only.</li> </ul>
Hybrid systems are not encouraged	<ul style="list-style-type: none"> <li>Hybrid systems (signed paper printouts with electronic records) should not be implemented.</li> <li>There needs to be a move to electronic records with minimal paper printouts for better compliance with regulations and better business efficiency.</li> <li>PipetteX can operate fully electronically when electronic signatures are enabled.</li> </ul>
User access rights which prevent (or audit trail) data amendments	<ul style="list-style-type: none"> <li>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.</li> </ul>
Automated data capture or printers attached to equipment such as balances	<ul style="list-style-type: none"> <li>Automated data capture is performed from all instruments connected to PipetteX.</li> <li>A printer e.g. for an analytical balance should not be required as this would turn an electronic system into a hybrid one.</li> </ul>
Proximity of printers to relevant activities	<ul style="list-style-type: none"> <li>If required, printouts of analytical reports and database searches from PipetteX can be achieved using existing network printers.</li> <li>A far better approach is to automate the process, use electronic signatures and eliminate paper.</li> </ul>
Access to raw data for staff performing data checking activities	<ul style="list-style-type: none"> <li>All data acquired during an analysis are available in the database for review by a second person or during an audit or inspection.</li> </ul>
Enforce sequence	<ul style="list-style-type: none"> <li>There is an enforced workflow for pipette verification.</li> </ul>
Block pipette	<ul style="list-style-type: none"> <li>A pipette can be blocked if it fails verification or is out of calibration.</li> </ul>
Complete data	<ul style="list-style-type: none"> <li>All data are stored in the PipetteX database.</li> <li>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 authorised personnel.</li> </ul>
Audit trail functions	<ul style="list-style-type: none"> <li>The audit trail can help a second person review by different views that look at: Instrument Analysis Changes.</li> </ul>



business server you are connected to.

### **License:**

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 and user management 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. It does not serve the purpose of an audit trail. All events can be found under

### **Home – Events**

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. Please check and respond.
- **Error**  An error has occurred. Please respond immediately to remove the error

### **Note**

- Events will be automatically deleted after 10 days.. The event type of the last event will stay until a new event registers, even when you have deleted the event.

### **Policies:**

In case you have policies turned on, 2 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-though 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. A Red bar  indicates the record is due for Calibration or Service. A Yellow bar  indicates the record will be due for Service or Calibration in the coming days. A 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). Go to **Settings** on the asset tab > Warning Period Length for Chart and modify the days.

- **Number of days left**  
The number next to the color indicates the number of days left to the next Calibration or Service interval. It verifies both next calibration and next service dates and picks the date that is closest to today's 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 status of "Number of days left".
- **Write Status (pipettes only)**  
The third column indicates with a blue icon  that an RFID enabled pipette has a different RFID structure than is current in PipetteX and is awaiting an update. Please 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 is waiting to be updated to the Pipette (through either SmartStand or RFID reader). Please 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 synched. The field changes to  once writing is successful or  if writing failed.

## Note

- It is very important to ensure that the write status of pipettes is always green. 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 (hence has status yellow (“write pending”)) and information on the RFID tag gets updated by an external application (e.g. METTLER TOLEDO Rainin Service), the data that is pending for this pipette in PipetteX will get written to the RFID tag of the pipette as soon as the pipette is seen back on a PipetteX connected RFID reader. It will overwrite the data that was updated by the external application on the RFID tag.

### Document icons:

PipetteX will notify you when you receive new documents in the Asset view page. A  indicates you 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:

Per screen there are different action buttons that allow you to perform actions in the screen. These action buttons might be visible and/or actionable or not, depending on your user rights.

### 5. Record specifics screen:

By clicking the  icon on the right hand side of the screen you can blend in or out the record specifics information. By pinning or unpinning the side screen, the screen will either stay or collapse to the side.

Depending on your setup and the screen, you will find the following 3 functionalities in the record specifics screen:

-  Edit and bulk edit record(s) (in case 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. Where you can move the section to is 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 a few additional information is provided:

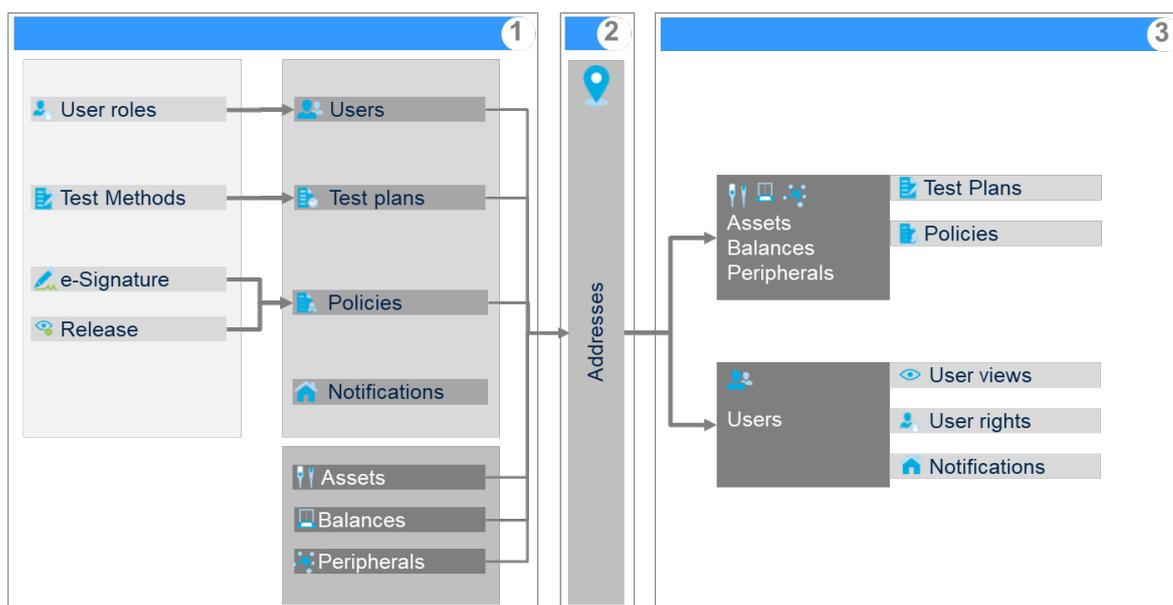
-  **Back-end connectivity:**  
This icon indicates whether you were able to successfully connect to the Mettler Toledo Web server.
-  **Pipette model verification:**  
By clicking this icon you can start the model verification process.

- **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.

## 4.1.2 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 set up certain aspects or not, 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



## 4.1.3 Automation logic

PipetteX aims to make your workflows more efficient and taking away work from you. Several automation build-in logic mechanisms help you do so. It is important that you familiarize yourself with them.

### 4.1.3.1 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 non-critical to have all your models correct during 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 (with the correct user right, one can change this under settings). However, one can manually trigger the verification process 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 Rainin 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 Rainin database will happen (regardless of manufacturer). In case a record exists, the model name will be compared and in case of discrepancies overwritten with the model name on record by Mettler Toledo Rainin.

The outcome of the model verification can have 3 different results:

- **Verified:** these models have been successfully verified and updated. 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. Till they get known to METTLER TOLEDO Rainin, 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 Nr is already existing 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.

**4.1.3.2 Service / Routine test date updates**

PipetteX has some great functionality build in to always keep your service and routine test dates up to date. If service is done by METTLER TOLEDO Rainin and you fulfill the pre-requisites listed below, service dates are automatically updated after every service. For Rainin pipettes, there is the alternative to update service dates by using the RFID functionality with an RFID reader.

Similarly as per the routine test, procedures using either a SmartCheck or XPE/XPS balance, routine test dates get automatically updated as per 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 has to be done by METTLER TOLEDO Rainin 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.

Please review the table below to understand the logic for date updates in the asset view. The logic below only involves any automated scenario (be it for calibration certificates or verification reports). Dates can be manually preponeed 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

In case service is done with METTLER TOLEDO Rainin 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 Rainin	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
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). Please match the last service date on file with METTLER TOLEDO to pull in the dates automatically.

### Calibration certificates

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

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

- \* Depending on your e-sign policy settings, the document might be only visible after e-signing the document.
- \* Verify with your local METTLER TOLEDO Rainin 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 SmartCheck	Connected	XLS(+) pipettes with and w/o SmartStand	<p><b>Automatically updates after verification and/or docking on SmartStand:</b></p> <p><b>Asset View:</b> Next Quickcheck Date</p> <ul style="list-style-type: none"> <li>• <b>SmartCheck:</b> through calculation in PipetteX (date of work (of Quikcheck) + frequency as per test plan assigned to pipette))</li> <li>• <b>XPE/XSE:</b> through docking on SmartStand and only in combination with XPE/XSE balance or through calculation in EDPAM PipetteX (date of work (of Quikcheck) + frequency as per method test plan assigned to pipette))</li> </ul> <p><b>Certificate View:</b> Date work performed</p> <p><b>RFID tag:</b> Next Quickcheck Date</p> <ul style="list-style-type: none"> <li>• <b>SmartCheck:</b> only after putting the pipette on a connected SmartStand</li> <li>• <b>XPE/XSE:</b> either at the balance or after putting the pipette on a connected SmartStand</li> </ul>
		Smart Tag enabled pipettes and/or Method card with EasyScan Flex reader	<p><b>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):</b></p> <p><b>Asset View:</b> Next Quickcheck Date</p> <p>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.</p> <p><b>Note:</b> Method card does not work with SmartCheck</p> <p><b>Certificate View:</b> Date work performed</p> <p><b>SmartTag:</b> Next QuickCheck Date</p>
		Non RFID pipettes and/or XLS(+) pipettes w/o EasyScan Flex reader	<p><b>Automatically updates after verification:</b></p> <p><b>Asset View:</b> Manual</p> <p><b>Certificate View (XPE/XSE only):</b> Date work performed</p>

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	<b>Automatically updates upon docking on SmartStand:</b> <b>Asset View (XPE/XSE only):</b> Next Quickcheck Date (through docking on SmartStand) <b>Certificate View:</b> Manual <b>RFID tag (XPE/XSE only):</b> Next Quickcheck Date
		Smart Tag enabled pipettes and/or Method card with EasyScan Flex reader	<b>XPE/XSE only: updates Next QuickCheck date on SmartTag, no report stored (print is an option):</b> <b>Asset View:</b> For SmartTag hold it over an PipetteX connected EasyScan Flex reader. For Method card, update manually <b>Certificate View:</b> Manual <b>SmartTag:</b> Next QuickCheck Date
		Non RFID pipettes and/or XLS(+) pipettes w/o SmartStand or EasyScan Flex reader	<b>All manual:</b> <b>Asset View:</b> Manual <b>Certificate View:</b> Manual <b>RFID tag (for XLS(+)):</b> N/A
Others	Not connected	N/A	<b>All manual</b>

\*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. Please read section 5.6.6.2 how to update dates orphan routine test reports.

#### 4.1.3.3 Linking of certificates and routine test reports

PipetteX can automate the adding of certificates and routine test reports to your records. You can change the refresh rate at which PipetteX checks for new certificates. To do this, go to **Settings** in the toolbar and on the tab **General** change the default value under "METTLER TOLEDO data sync refresh rate (hrs)" from 12 hrs to a value of your liking.

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, after each service event the calibration documents are automatically assigned to the asset record and can be found on the document page of the record.

- **Routine test report:**

In the documents page, you can also view your routine test reports performed using a SmartCheck or QuickCheck enabled balance like XSE/XPE. To import routine test reports automatically, please follow the hardware configuration steps as mentioned in chapter [Configuring the hardware ► Page 41].

##### SmartChecks

Similar as for pipettes you can see routine test reports from SmartChecks in the document view. Please follow the hardware configuration steps as mentioned in chapter [Configuring the hardware ► Page 41].

## **XPE/XSE balances**

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

### **Prerequisites:**

Calibration certificates retrieval (pipettes only):

- 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 Rainin for models to update
- Ideally have a few XLS(+) pipettes registered via a SmartStand or RFID reader. If this is not possible, make sure you have the other 2 below criteria taken care of
  - Ensure Serial number and Manufacturer match exactly to what is on the physical certificate AND
  - Ensure the last service and calibration date is  $\pm 2$  days from what is on the physical certificate

### **Routine test reports retrieval (pipettes and SmartChecks):**

- Paid license key is active (either a site or unlimited license)
- The SmartCheck and/or balance needs to be linked to PipetteX at time of performing the routine test

## **4.1.4 Test plan logic**

### **4.1.4.1 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 6.4 [Methods ▶ Page 62] and 6.5 [Test Plans ▶ Page 64]). You can then assign multiple methods to a test plans who 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.

In case 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 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 on policies (see section [Policies ▶ Page 15] for more information on policies) for two aspects: 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 right profile can execute the policy (this will be the same profile for all applicable addresses)

### **4.1.4.2 Defining your setup**

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

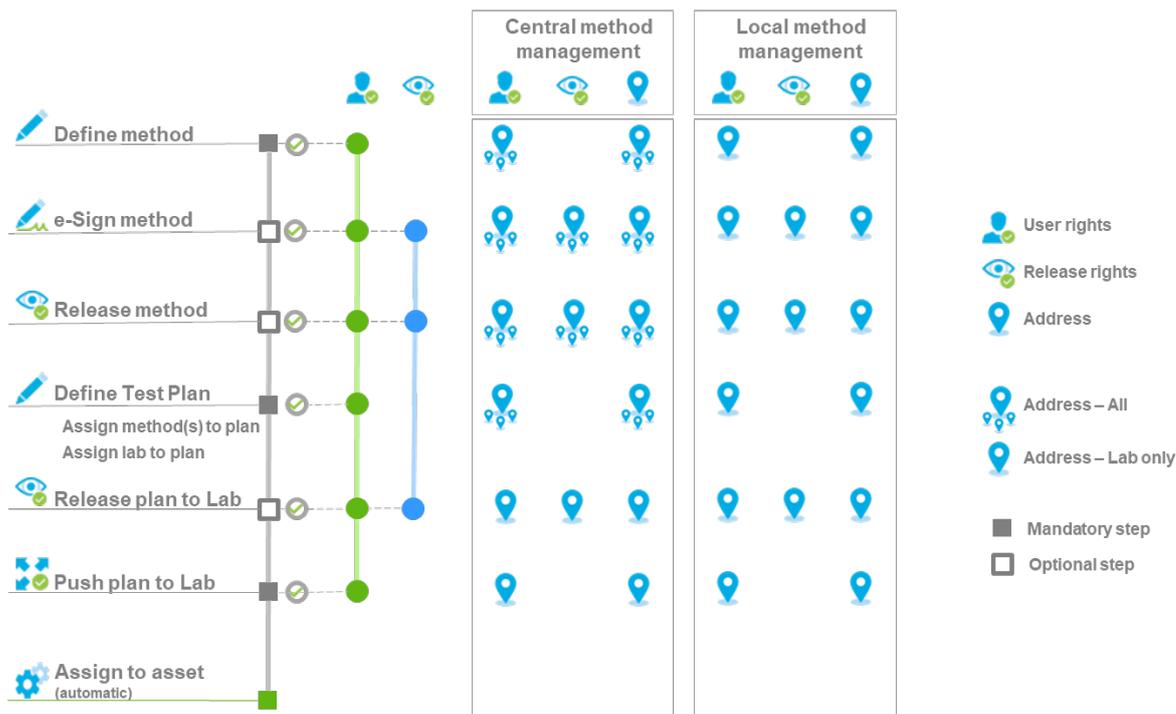
#### **Central method management:**

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

#### **Local method management:**

Routine test method and test plan definition is left up to the local labs. This means that those with local rights can setup the methods and test plans as well as enforce them into 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.



### 4.1.4.3 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

Important to understand is that only updating a method does not automatically mean this new version of the method propagates automatically 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

Important to understand is that only updating a test plan does not automatically mean this new version of the test plan propagates 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

Important to understand is that only upon pushing the new version of the test plan to the addresses, the new method propagates to the assets.

#### Staging work:

PipetteX provides to stage work, allowing you to setup a newer version of methods and test plans in 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 work-around solution is to setup 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.

## 4.2 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 rel. Random Error s (%) calculation in some legacy products, whereas Volnom (also called the selected Volume) got used for the rel. Systematic Error E (%) calculation. However, for the process tolerance Uncertainty calculation U (%) in it has become recommended to use the rel. Random Error s (%) calculation using Volnom (regardless of the selected Volume by the user).

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

### 4.2.1 Pipettes: process tolerance

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 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:  $Volave - Volnom = 200.75 - 200 = 0.74975 \mu l$

Random error s:  $STDEV.S(Measurement\ n-1 \dots) = 0.994418884 \mu l$

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(%):  $INT((100*U(\mu l)/Volnom)*10+.05)/10 = 2.0\%$

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

Fail:  $U > T$

Pass  $U \leq T$

**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  $s(\%) = 100 * (s / Volave)$

#### 4.2.2 Pipettes: ISO 8655

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 [%]	

In case 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  $s(\%) = 100 * (s / Volave)$

### 4.2.3 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 in order 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

## 4.2.4 Rounding

PipetteX is applying 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 chapter 14.3 are applied.

## 4.3 Data in PipetteX

PipetteX has extensive functionality for exporting and importing of data. Some of the most important data points can be exported automatically using the scheduler functionality, as described in chapter 6.1 Scheduler.

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

### 4.3.1 Routine test report information

You can download the test report data as described below in its entirety only as PDF format. 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). Please review section 4.3.3 [Integrating with other systems (LIMS) ▶ Page 40] 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.

#### 4.3.1.1 Pipette: SmartCheck routine test report

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 field?
SystemID of report in PipetteX	PipetteX	1+2	■
Page nr	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	

Data field	Source	Report Page	Export as field?
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	▪
<b>Optional</b>			
Status of report (in case revoked / obsolete)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	

\* Only with a valid Audit License active

#### 4.3.1.2 Pipette: XPE balance routine test report

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

Data field	Source	Report Page	Export as field?*
SystemID of report in PipetteX	PipetteX	1+2	▪
Page nr	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	

Data field	Source	Report Page	Export as field?*
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	▪
<b>Optional</b>			
Status of report (in case revoked / obsolete)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	

\*For the XPE 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).

#### 4.3.1.3 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 field?
SystemID of report in PipetteX	PipetteX	1+2	▪
Page nr	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	▪
<b>Optional</b>			
Status of report (in case revoked / obsolete)	PipetteX	2	
e-Signature of person revoking	PipetteX	2	
Date/Time (UTC) of revocation	PipetteX	2	
Reason for revocation	PipetteX	2	

## 4.3.2 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 **default Import/Export template** provided by the PipetteX.

### 4.3.2.1 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 select the print option from the menu by clicking on "..." [ @ Urs: insert the "... icon here] the 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 6.1 Scheduler 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 4.3.3 Integrating with other systems (LIMS) to understand the file format structures.

The table below shows which data can be exported. If you have added columns to the database, these 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 chapter 5.6.1.3 "Add Assets via Import" to understand how to import files.

Field name	Export (xls: Δ   csv: ●   xml: ▲)	Import (xls: 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
Last service date	Δ   ●   ▲	Δ
Next service date	Δ   ●   ▲	Δ
Last calibration date	Δ   ●   ▲	Δ

Field name	Export (xls: Δ   csv: ●   xml: ▲)	Import (xls: 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	●   ▲	
Reviewed by	●   ▲	
Comments	●   ▲	
E-Sign comments	●   ▲	
PM services performed	●   ▲	
Service Plan Name	●   ▲	
Calibration Plan Name	●   ▲	
Alternative Plan Name	●   ▲	

† Mandatory field

†† When service is done with METTLER TOLEDO Rainin (all brands) or Rainin pipettes are uploaded, despite the field being mandatory, do not pay too much attention to this field. The data cleaning logic of PipetteX will correct for right model after import.

#### 4.3.2.2 Balance tab data

For SmartChecks and balances, the only way to extract the record data from the system is by using the scheduler. Please read chapter 6.1 Scheduler 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 (xls: 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   ●   ▲
Device software version	Δ   ●   ▲
Last service 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   ●
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 SystemId	Δ   ●
Date of work	Δ   ●
File	Δ   ●
Type of work	Δ   ●

Field name	Export (xls: Δ   csv: ●   xml: ▲)
As-found result	Δ   ●
As-left result	Δ   ●
Test volume(?l)	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   ●
E-Sign comments	Δ   ●
PM services performed	Δ   ●
Service Plan Name	Δ   ●
Calibration Plan Name	Δ   ●
Alternative Plan Name	Δ   ●

#### 4.3.2.3 Address tab data

For addresses, you can use both import and export. In chapter 5.1 Addresses, you can read how to import and export the data. You can export the data to excel. The below table shows which data can be imported and exported.

Field name	Export (xls: Δ)	Import (xls: 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

#### 4.3.2.4 Method tab data

For methods, you can use both import and export. In chapter 5.4 Methods, you can read how to import and export the data. You can export the data to excel. The below table shows which data can be imported and exported.

Field name	Export (xls: Δ)	Import (xls: 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
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

#### 4.3.2.5 Users tab data

For users, you can use both import and export. In chapter 5.3 Users, you can read how to import and export the data. You can export the data to excel. The below table shows which data can be imported and exported.

Field name	Export (xls: Δ)	Import (xls: 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

### 4.3.3 Integrating with other systems (LIMS)

PipetteX does not have an API. However, with the scheduler functionality as described in section 7.1 Scheduler you can automate the exporting of data from PipetteX to other applications. PipetteX can export data for assets and balances in 3 formats: xls, csv and xml. Please read below how the data is structured so you can automate the read-out of the files.

#### 4.3.3.1 xls and csv files

When you choose the export in either xcl 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 following path:

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 build up 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 contain the document ID of the certificate file. The file name of the certificate and or routine test report is randomly created.

#### 4.3.3.2 xml files

When you choose the 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 contain the document ID of the certificate file. The file name of the certificate and or routine test report is randomly created.

## 5 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 find an overview of all hardware, its functionality in relationship to PipetteX, and how to configure the different hardware.

### 5.1 SmartStand

This stand or hang-up has 4 RFID readers built in and reads most METTLER TOLEDO Rainin 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. Please read section [Filter, views, column chooser ▶ Page 84] how to use the column chooser.

#### 5.1.1 Add SmartStand

##### 5.1.1.1 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 Off and On the SmartStand, wait 10seconds.
- 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.

\*\* In case the USB device does not automatically get added, drivers might not have installed correctly. Please see PipetteX Installation Guide if the drivers do not install automatically when connecting the SmartStand the first time.

##### 5.1.1.2 Add via Bluetooth connection

PipetteX can communicate wirelessly with the SmartStand. In order to get maximum 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 are potentially already built in 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.

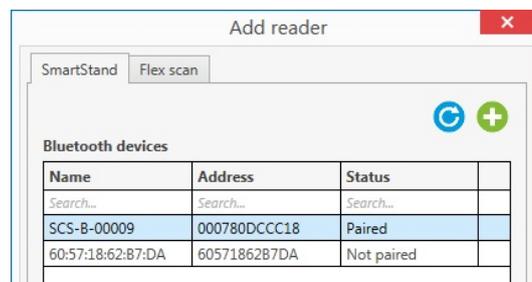
In order to connect the SmartStand via Bluetooth PipetteX, disconnect the USB cable and factory reset the SmartStand in case you are not sure whether it was paired somewhere else before or not.

- 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 .

- 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 re-pair, please delete the connection first by selecting  from the Readers page, reset the SmartStand to factory reset and make sure that the SmartStand has been removed from the Windows Bluetooth device list. Then attempt to pair again. Notice that the SmartStand will now show as 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 MT prescribed Bluetooth dongle to connect to the Smart Stand (See PipetteX Installation Guide).



### 5.1.2 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,

- 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 .
- Assign an address to the SmartStand(s) and click **Save**
- If a release policy applies to the assigned SmartStand, click on the  icon
- Add a comment (you can use standardized comments. See [Comments ▶ Page 78] how to define standard comments and how to assign comments to policies)
- Sign-in with your PipetteX credentials (provided, you have release rights for SmartStand as per release policy)
- Release the Smartstand

### 5.1.3 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 dropped on 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 a service event is coming up (default alarm is 30 days). Via the "Local modification lockout" you are able to centrally lock out the end-user of modifying any setting on the SmartStand itself.
- Wireless connectivity settings**  
These settings influence the response time of the Bluetooth module on the SmartStand and should only be changed if absolutely 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-on events as is it 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-on 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 last 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-on events on the stand (influencing the tracing functionality of PipetteX via the count-log). As tempting the lowering of this value might seem one has to consider whether a highly responsive Bluetooth connection is really needed or whether a small delay in connectivity is acceptable. For initial setup (pairing) a low value of 10 seconds is recommended (to speed up the pairing process), however for 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 truly helpful if you try to trace down pipettes afterwards and need to determine where the pipette was last seen.

### 5.1.4 Update Device Software

PipetteX can check for the latest device software for the SmartStand. 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 **Device Software** red, indicating the SmartStand does not have the latest software installed. You can only update the SmartStand software when the SmartStand is connected through USB. To blend in the column **Device Software** right click any column header and choose **Column chooser**. In the column chooser, select **Device Software**. By clicking on the hyperlink in the column **Device Software** you can update the stand to the latest version. Alternatively, you can use the scheduler functionality to remotely trigger device software updates. Please consult section [Add scheduler: device software update ▶ Page 77].



#### NOTICE

##### **Never disconnect a SmartStand during the device software update process.**

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

### 5.1.5 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 Plug Out and in the instrument again. Now, PipetteX will 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 make sure 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.

## 5.2 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. Please read section [Filter, views, column chooser ▶ Page 84] how to use the column chooser.

### 5.2.1 Add RFID Reader

#### 5.2.1.1 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 ▶ Page 41]

## See also

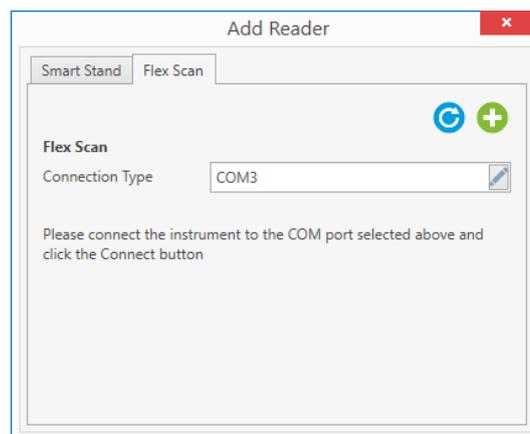
[Add via USB connection](#) ▶ Page 41

### 5.2.1.2 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 **C** to list all the available COM ports.
- 7 Select the appropriate COM port through which the Easy FlexScan reader is installed.
- 8 Power Off and On the Easy FlexScan, wait 10seconds.
- 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.



### 5.2.2 Release RFID Reader

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

### 5.2.3 Use RFID Reader

The EasyScan USB reader can be used as 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.

### 5.2.4 Update Device Software

Only the device software of the EasyScan Flex USB reader can be updated using PipetteX. It follows the same logic as [updating the device software of the SmartStand ▶ Page 43].

### 5.2.5 Delete RFID Reader

Deleting the RFID readers (both legacy Rainin as well as the EasyScan reader) follows the same logic as [deleting the SmartStand ▶ Page 43].

## 5.3 SmartCheck

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

#### Connected via USB (standalone case):

You connect a SmartCheck to perform any of the below 2 actions. Afterwards, you place the SmartCheck back on the bench without it being connected to PipetteX.

- Update the tolerance of the SmartCheck (change it to any value between 1-10%).
- Update the device software of the SmartCheck.

### Connected via USB (connected case):

You connect a SmartCheck to a PC that has PipetteX on it and leave it connected via USB. Apart from the aforementioned cases, you now are able to:

- Start the Pipette Verification from PipetteX and measure against pipette specific tolerances. Get the verification report automatically assigned to the document history of the pipette (only for the paid license)
- Together with an EasyScan Flex USB reader 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 w/o the need for a PC at the bench. Hookup a SmartCheck and an EasyScan LAN reader to your network and verify any pipette w/o the need for touching the PipetteX software.

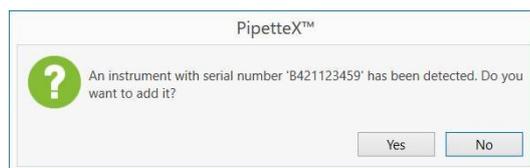
Click on the balance icon in the top ribbon. The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section 8.1 Filter, search, column chooser, how to use the column chooser

## 5.3.1 Add SmartCheck

To add a SmartCheck to PipetteX,

- 1 Start the PipetteX application.
- 2 Wait for the application to load and login.
- 3 Click on the Balance icon in the ribbon.
- 4 Connect the USB cable from the SmartCheck to the PC.
- 5 Wait for the drivers to be installed\*\* and the SmartCheck to start up
- 6 Now you will see a message to accept, e.g.  
➔ The SmartCheck or reader should be listed in the reader table now.

\*\* In case the USB device does not automatically get added, drivers might not have installed correctly. Please see PipetteX Installation Guide if the drivers do not install automatically when connecting the SmartCheck the first time.



### Note

- If you have release policies active, the connectivity  icon will be blue after you have added the SmartCheck to PipetteX. This means, that the connection is working, however not active until you release the SmartCheck. After releasing, the connectivity  icon will turn green.
- By connecting the SmartCheck to PipetteX via USB, 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 your intention is to use the SmartCheck without PipetteX connectivity in the lab, please switch it back to standalone mode by selecting the SmartCheck and clicking the  icon in the records specifics window prior to disconnecting the USB cable.

## 5.3.2 Release SmartCheck

Depending on whether you have release policies active, you will have to release the SmartCheck before you can start using it 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 If a release policy applies to the assigned address, the  icon becomes active
- 4 Click on the  icon
- 5 Add a comment (you can use standardized comments. See 7.2 [Comments ▶ Page 78] how to define standard comments and see 3.3 [Policies ▶ Page 15] how to assign comments to policies)
- 6 Sign-in with your PipetteX credentials (provided, you have release rights for SmartCheck as per release policy)
- 7 Release the SmartCheck

Once the SmartCheck is released, you will notice that the USB

### 5.3.3 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, In service, Reserved, Lost)
- **All other fields:** these are automatically populated

#### Service Data

- **Service Dates:** you can edit the below 3 dates. The date formatting happens automatically as per your Windows System settings
  - Last Service date
  - Next Service date
  - Next Routine test date
- **Testplan:** The testplan for the SmartCheck is assigned automatically through the address that the SmartCheck is assigned to. Please see [Test Plans ▶ Page 64] for more information on test plans.
- **Routine test method:** The routine test method is assigned automatically to a SmartCheck through the test plan that is assigned to the address the SmartCheck belongs to. You can only change the routine method of the SmartCheck through updating the method in the test plan. See [Methods ▶ Page 62] 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. Please see section 4.1.4 [Test Plan Logic ▶ Page 27] for more information on test plans for pipettes.
- **SOP#:** This value pulls automatically from the test method.

#### Address data

- **Address data:** you can setup addresses under the Address Tab (see section [Addresses ▶ Page 58]). Once you have done so, you can assign this address to the SmartCheck. Assigning an address is key to be able to assign methods, release assets (if applicable) and manage the view of SmartChecks for users (Review section [Calculations ▶ Page 29] to understand the logic in PipetteX.)

#### User data

- **User data:** you can assign individual users to the SmartCheck. The user will first have to be setup under the user management (see section [Users ▶ Page 60]). Assigning a user to a SmartCheck helps you to make someone responsible for service and routine testing of a device. Via email notifications, this person can be reminded of an upcoming service or routine test. Secondly, assigning a user has an influence on what certain users can or cannot see (see section [Set User specific Asset Views ▶ Page 86])
- **Financial data:**
  - **Date placed into service**
  - **Lifetime (month):** This will then automatically calculate the lifecycle position based on the lifetime of the asset 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)**

If you connect a SmartCheck to PipetteX via USB, 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 your intention is to use the SmartCheck without PipetteX connectivity in the lab, please switch it back to standalone mode by selecting the SmartCheck and clicking  in the records specific window prior to 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 will first have to remove the gateway for the SmartCheck in the gateway view.

### 5.3.4 Routine Test SmartCheck

You can perform routine tests (repeatability test) for a SmartCheck. Depending on your setup you have chosen, your procedure will be different as well as what data PipetteX is able to capture.

#### 5.3.4.1 Routine test: standalone case

The start of performing the routine test is at SmartCheck and does not require an active connection to PipetteX. Please read the manual of SmartCheck 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 be lost.

#### 5.3.4.2 Routine test: connected case

The start of performing the routine test is at PipetteX.

##### Prerequisites:

- Starting a routine test requires that you have a test method and test plan assigned to the SmartCheck. Please read section [Methods ▶ Page 62] on how to assign methods and test plans.
- Make sure 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 right 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 get automatically captured in PipetteX

#### 5.3.4.3 Routine test: autonomous case

The start of performing the routine test is 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 SmartCheck. Please read section [Methods ▶ Page 62] on how to assign methods and test plans.
- Make sure 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 autonomous mode
- Make sure you have a Method Card with a SmartCheck repeatability test assigned to it. Please read section [Method cards ▶ Page 74] 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 get automatically captured in PipetteX  
The SmartCheck will return to its previous state it was in.

### 5.3.5 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 **Device Software** red, indicating the SmartCheck does not have the latest software installed.

To blend in the column **Device Software** right click any column header and choose **Column chooser**. In the column chooser, select **Device Software**. By clicking on the hyperlink in the column **Device Software** you can update the stand to the latest version. Alternatively, you can use the scheduler functionality to remotely trigger device software updates. Please consult section [Scheduler ▶ Page 77].

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 Rainin service will be able to recover the SmartCheck in this case.

### 5.3.6 Delete SmartCheck

You can remove a SmartCheck from the view by selecting the SmartCheck and clicking the  icon. The SmartCheck will be removed from the view. The record and data however will remain present in the DB.

If a once deleted SmartCheck is reconnected to the same instance of PipetteX, the old record will be reactivated and data from the same SmartCheck will be added to the old record. Obviously, if a release policy exists for the SmartCheck, the device will first have to be released again before it can be used.

## 5.4 Gateway

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

#### **Virtual gateway:**

the virtual gateway physically does not exist but virtually teams up 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 by means of 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 gateway can be found on

▶ <https://www.silextechnology.com>

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, search, column chooser ▶ Page 84] how to use the column chooser

### 5.4.1 Add Gateway

#### 5.4.1.1 Virtual Gateway

Manually pairing a SmartCheck with an EasyScan USB RFID reader is done quickly. The presumption is both devices have been released (if applicable per your release policy settings).

- 1 Go to the **Gateway** tab (click the the peripherals menu  and select Gateways )
- 2 Click the  icon
- 3 Go to manual pairing
- 4 Select the Smartcheck and EasyScan USB RFID reader you want to pair
- 5 Select save and close the window (unless you want to manually pair more devices)

Notice that the virtual gateway will get added to the grid. 2 green icons are showing:

	Manufacturer	Model number	Serial number	Asset ID	Address ID	User ID	Connected Smart...	Connected RFID r...
	Search...	Search...	Search...	Search...	Search...	Search...	Search...	Search...
	Mettler Toledo	Virtual Gateway	Virtual Gateway				B421123456	B933121598

- USB connection icon**  
 Depending on the color of the icon it has different meanings:
  - 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**  
 Depending on the color of the icon it has different meanings:
  - Both devices are connected and working properly
  - One or both devices are suffering from a connectivity issue. Please verify the connection

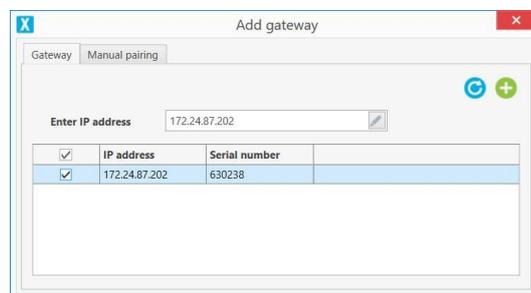
### 5.4.1.2 Silex Gateway

To connect a Silex Gateway, please follow the following steps:

- Power the Silex Gateway by plugging in the power cord
- Connect your LAN cable to the Silex Gateway
- Connect both the SmartCheck and EasyScan USB RFID reader to the Silex Gateway
- Go to the **Gateway** tab (click the the peripherals menu and select Gateways )
- Click the icon
- 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 show on the screen can be found at the bottom of you gateway.

**Note:** Please read the configuration chapter if no gateway shows.

  - Enter your broadcast IP address of your network (in which the Silex Gateway is hosted) or static IP address of the gateway into the IP address field. This broadcast IP address you will have to retrieve from your IT department or whoever manages your network. Read below under Configure Gateway to find out about the IP address of your gateway.
- Select the gateway (the serial nr displayed in PipetteX corresponds to the serial nr that is on the label at the back of your Silex Gateway) and click the icon
- Note that the SmartCheck and EasyScan USB RFID reader will get automatically added to PipetteX. They will however not get auto-released (if applicable per release policies).



### 5.4.2 Configure Gateway

You can assign both types of gateways the following:

- 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 the user management (see chapter [Users ▶ Page 60]).

For the Silex gateway, you can configure more settings. However, most of this is done through the SX virtual link utility from Silex. Please read below how to do this.

#### 5.4.2.1 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 the PipetteX implementation, you do not need any configuration as this is done automatically.

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

▶ ▶ <https://www.silextechnology.com>

#### 5.4.2.2 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.

#### 5.4.2.3 Silex gateway: Subnets

In large IT networks, networks might get partitioned by IT in 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 applying 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 below steps are only recommended to people with sufficient IT/network knowledge.**

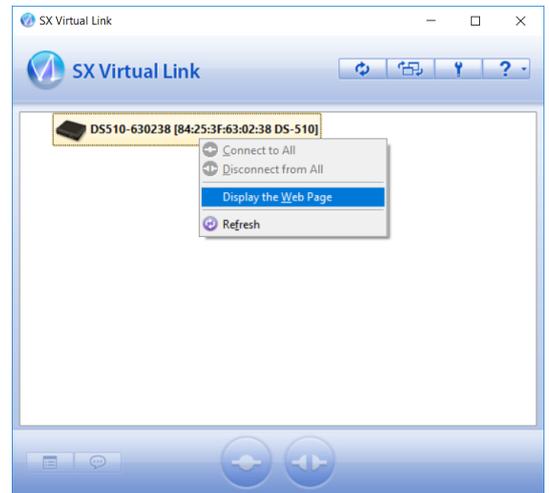
To set a static IP address:

- 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 user name 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



Status

Network Settings

Extended Settings

System Information

### Network Settings

Item	Value	Instruction
Host Name	DS510-630238	15 letters[max.]
DHCP/BOOTP	ENABLE <input type="button" value="v"/>	Select one
IP Address	0.0.0.0	IP address
Subnet Mask	0.0.0.0	IP address
Default Gateway	0.0.0.0	IP address
Network PnP	ENABLE <input type="button" value="v"/>	Select one
mDNS	ENABLE <input type="button" value="v"/>	Select one
mDNS Service Name	DS510-630238	63 letters[max.]
LAN Interface	AUTO <input type="button" value="v"/>	Select one
Primary WINS Server	0.0.0.0	IP address
Secondary WINS Server	0.0.0.0	IP address
NetBIOS Scope ID		223 letters[max.]

\*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 should now show

#### 5.4.2.4 Silex gateway: VMs

Please consult the Installation Guide (section "Virtualized Environments").

#### 5.4.2.5 Silex gateway: setting the gateway's password

We strongly recommend to change 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

- 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 50])
- 2 Under **System Information** click **Password**.

Item	Value	Instruction
New Password	<input type="text"/>	7 letters[max.](Password)
Re-enter New Password	<input type="text"/>	

Submit Reset

- 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**

### 5.4.3 Update Device Software

Updating the device software of the Silex Gateway cannot be done from PipetteX. To update the device software, you have to use the SX Virtual Link Utility. Besides, you will first have to 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.

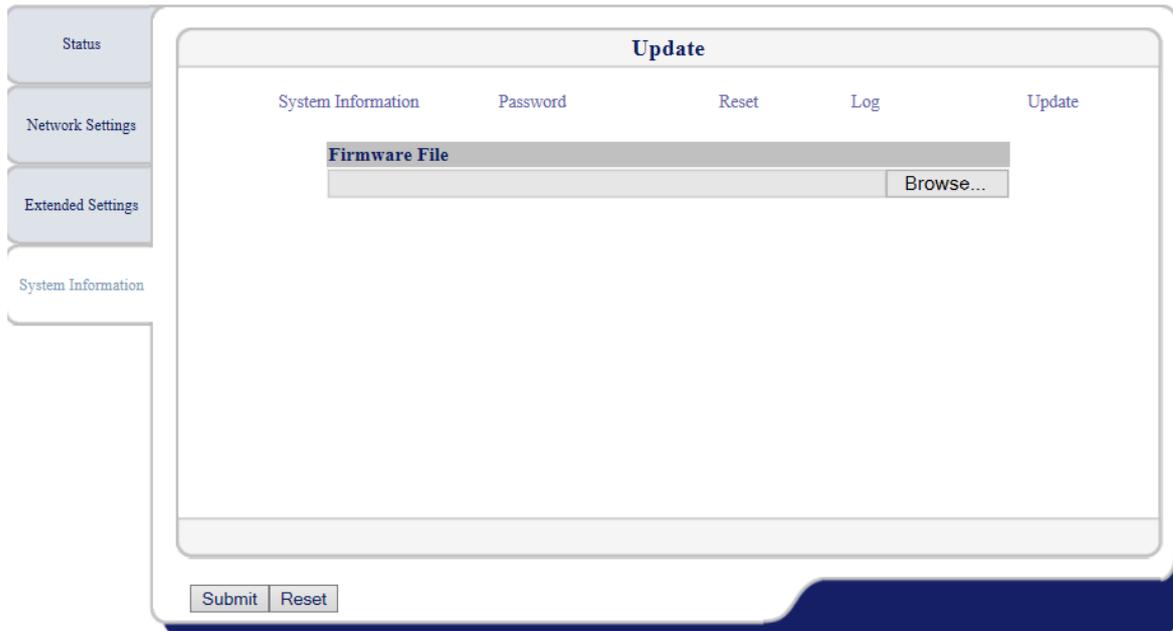
► ► <https://www.silextechnology.com>

#### Note

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

To update the device software

- 1 Go to the Webpage of the gateway (how to get here, please follow the steps as explained in section [Silex gateway and subnets ► Page 50]).
- 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.

#### 5.4.4 Delete Gateway

To delete the gateway in PipetteX,

- 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 automatically be recognized and displayed as actively connected devices.

### 5.5 Balance

Click on the balance icon in the top ribbon. The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, views, column chooser ▶ Page 84] how to use the column chooser.

#### 5.5.1 Add Balance

##### 5.5.1.1 Add balance: without LabX

To import QuickCheck reports electronically from and XPE/XSE balance, please follow the steps below. For any hardware related questions, please consult 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; please contact METTLER TOLEDO in case you need this option) and click on the  Balances button from the tool bar.
- 2 Press the  icon to add a new balance and enter the IP Address, Host and Print port numbers. The IP address that you need to map the balance in PipetteX you can find directly under the system settings of the balance.
  - ➔ On an XPE analytical balance, click the button > [System] > Option > IPAddress. The Host and Print Ports are populated by default. Leave them as is unless you have changed it from the balance.

- ➔ Also 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 will now be listed in the Balances View.

In order to assign QuickCheck reports from the balance automatically to pipettes in PipetteX, you have to configure the QuickCheck report layout on the balance. Please follow the steps below:

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

The following parameters should be defined as per below ranking in order to have the QuickCheck report automatically assigned to the pipettes in PipetteX. Please note that the balance ranks your settings input successively after you select the option, meaning: if you find out retrospectively the settings' ranking is wrong, you have to disable all settings till you reach the wrongly ranked setting and then continue again.

#### Balance menu explanation

Menu Item	Explanation	Further information
<b>Header</b>	Define the information to be printed in the protocol header (before the results).	See section Header line of protocols
<b>Single value</b>	Defines the information to be recorded for each individually tested volume.	See section Recording single values
<b>Footer</b>	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
<b>1</b>	1/4	<b>Appl. Name</b>	Defines it is the QuickCheck application
	1/4	<b>Title 1</b>	Defined by user
	1/4	<b>Title 2</b>	Defined by user
<b>2</b>	1/4	<b>Date/Time</b>	Date and time when the QuickCheck was performed
	1/4	<b>User</b>	User who performed the QuickCheck
<b>3</b>	1/4	<b>Balance Type</b>	The balance type is printed. The balance type is generated by the balance and cannot be changed by the user.
<b>4</b>	1/4	<b>SNR</b>	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	<b>Balance ID</b>	ID of the balance
	2/4	<b>Levelcontrol</b>	Defines whether balance was leveled or not
	2/4	<b>ID1</b>	Additional info
	2/4	<b>ID2</b>	Additional info
<b>6</b>	2/4	<b>ID3</b>	Additional info
	2/4	<b>ID4</b>	Additional info
	2/4	<b>Pipette model</b>	The pipette type is printed.
<b>5</b>	2/4	<b>Pipette SNR</b>	Prints the pipette serial number.
<b>7</b>	2/4	<b>Nominal vol.</b>	Records the nominal volume of the pipette.
	3/4	<b>Comment</b>	Comment field after QuickCheck

Ranking	Screen in app	Values	Explanation
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: <ul style="list-style-type: none"> <li>• average sample volume</li> <li>• check volume systematic error [<math>\mu\text{l}</math>] und [%]</li> <li>• check volume random error [<math>\mu\text{l}</math>] und [%]</li> <li>• calculated measurement uncertainty</li> </ul>
5	1/1	Result	Records the volume result (passed/failed).

#### Protocol footer

Ranking	Screen in app	Values	Explanation
	1/3	Appl. Name	Defines it is 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.
	2/3	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

Ranking	Screen in app	Values	Explanation
	<b>3/3</b>	<b>3 blank lines</b>	Adds 3 blank lines

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

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

### 5.5.1.2 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.

## 5.5.2 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 [Comments ▶ Page 78] how to define standard comments and see [Policies ▶ Page 83] 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.

## 5.5.3 Configure Balance

Identical to the SmartCheck. [Configure SmartCheck ▶ Page 46]

## 5.5.4 Delete Balance

Identical to the SmartCheck. [Delete SmartCheck ▶ Page 48]

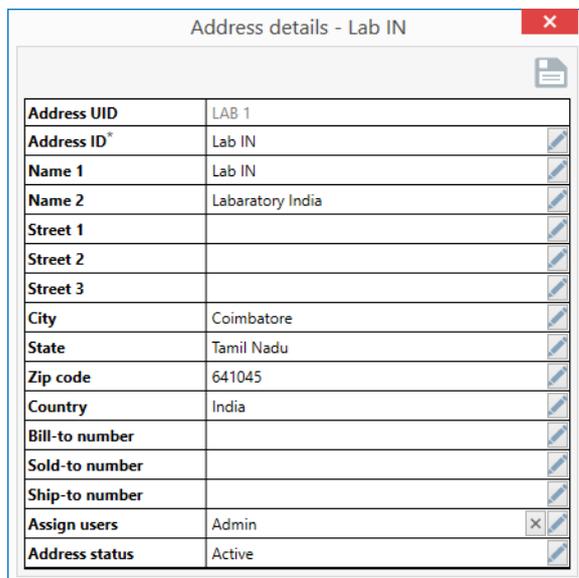
## 6 Functions

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

### 6.1 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 to. 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. Please read section [Filter, search, column chooser ▶ Page 84] how to use the column chooser



Address details - Lab IN	
Address UID	LAB 1
Address ID*	Lab IN
Name 1	Lab IN
Name 2	Laboratory India
Street 1	
Street 2	
Street 3	
City	Coimbatore
State	Tamil Nadu
Zip code	641045
Country	India
Bill-to number	
Sold-to number	
Ship-to number	
Assign users	Admin
Address status	Active

Each address can have a status:

- **Active:** Address is active and can be assigned to users or assets.
- **Deleted:** Address is retired, deleted from the view and cannot be assigned to users or assets anymore. For Audit Trail purposes the address record remains on the system, but can no longer be accessed.

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

#### 6.1.1 Add Addresses

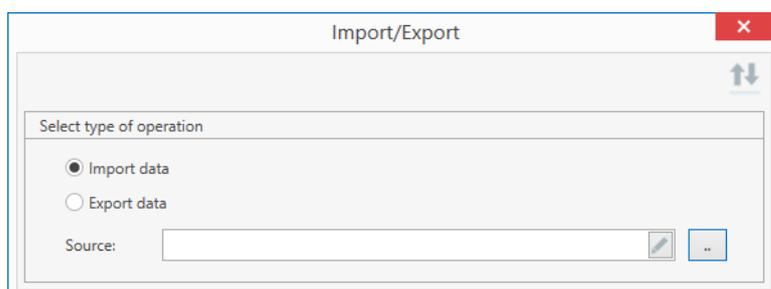
##### 6.1.1.1 Add Addresses Manually

To add an address manually, follow the steps below.

- 1 Click  in top ribbon bar and subsequently  to the top-right of the screen in order to add a new address.
- 2 Add all the details and click  in order 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.

##### 6.1.1.2 Add Addresses via Import

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



Import/Export

Select type of operation

Import data

Export data

Source:

## 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.

## 6.1.2 Edit Addresses

You can edit an address at any time. You can either do this one by one, double clicking the address and updating the information. Alternatively, you can use the import/export functionality to mass update information. Please ensure that you do not change the System ID and Address ID in case of 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

## 6.1.3 Export Addresses

You can export addresses from PipetteX in 2 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. Now click  in the top right corner and the file gets saved to the destination.

To export to an existing Excel file, click on  and select an existing file. Now 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 as shown in PipetteX.

## 6.1.4 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 .

## 6.2 User Roles

There are 4 default user roles in PipetteX:

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

An overview of the rights per user role can be found in the [Appendix ▶ Page 90].

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

## 6.2.1 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 setup a user role based on your need.

Close

**Create user role**

**Role details**

System ID:  Status:

Role ID \*  Inherited from:

**View settings**

Screen	Show records				Actions			
	All	Unassigne...	Lab	Assigned	Add	Edit	Retire	
Assets	<input checked="" type="checkbox"/>	^						
Readers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Gateway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Balances	<input checked="" type="checkbox"/>							
Method cards	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Address	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Users	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	v

**Actions and field Settings**

Action(s)	Allow	Field(s)	Show	Edit
Refresh sync	<input checked="" type="checkbox"/>	Manufacturer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Import data	<input checked="" type="checkbox"/>	Model number	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Export data	<input checked="" type="checkbox"/>	Serial number	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Link Smart Tag	<input checked="" type="checkbox"/>	Asset ID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Export usage history	<input checked="" type="checkbox"/>	Manufacturing date	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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 per 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.

After each change of a user role setting, the concerned users will have to log off from PipetteX to have the changes in the user roles reflected.

### Note

- You cannot add additional privileges to the user role beyond the capabilities of the inherited role.
- You need to be an Admin to add or modify user roles.
- The default "Admin" role cannot be changed.

## 6.2.2 Delete User Roles

You can remove any user created user role from the system. The 4 default user roles cannot be deleted from the system. To do so, select the record you want to remove and click the  icon.

## 6.3 Users

### 6.3.1 Add Users

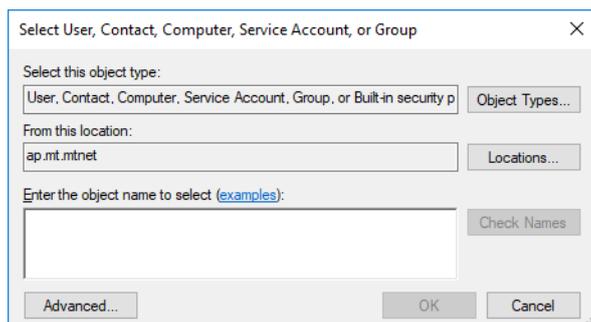
To set up users in PipetteX, you can choose to do this manually or using the import functionality. Prior to setting up users, please consider the Security Settings under Settings (see section [Security ▶ Page 79]).

### 6.3.1.1 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 Define User ID (this becomes the login name)
- 3 Add first and last name, phone 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 user name. Enter the user name/id along with the domain and press **Check Names** and **OK** upon success. You can now login 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 login.
- **Inactive:** The user profile can neither be assigned to assets nor can it be used to login.

#### Note

- We strongly recommend you to setup a new Admin account with unique password and put the default Admin account to inactive.

### 6.3.1.2 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 clicking .
- 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. As soon as these do not match with 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, User ID and password is mandatory for non domain users.
- To import AD users using Excel,
  - Fill out the respective AD user names (including the domain name, eg EU\user-1) under username.
  - Type "Yes" in the **Search Active Directory** column
  - Set **user status** to active
  - Assign a **user role**

### 6.3.2 Disabled User Accounts

If a user forgets his password, the administrator can reset his account. To do so,

- 1 The administrator changes the status from the account from inactive to active
  - 2 The administrator will get asked whether he wants to give the user a new password. If chosen **Yes**, the administrator will have to provide this temporary password to the user. Upon logging in, the user will have to choose a new password. If chosen **No**, the user can login with his old password again.
  - 3 Click save 
- ➔ The account is active again

For administrators that have lost their login credentials, please contact METTLER TOLEDO Rainin.

### 6.3.3 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 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 as shown in PipetteX. See section [Users tab data ▶ Page 39] for additional export functionalities.

### 6.3.4 Delete Users

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

## 6.4 Methods

PipetteX allows you to routinely test your pipettes, balances and SmartCheck. You can define one or multiple test methods per asset type and assign it to a test plan, which you can then assign to an address and therewith 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. Please review section [Test Plan Logic ▶ Page 27] 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. Please read section [Do I want to routinely test pipettes? ▶ Page 8]

#### SmartChecks

You can routinely test SmartChecks with a 1g weight by means of a repeatability test. The test method is predefined and 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/XPS balance to execute the routine test on the Balance.

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, search, column chooser ▶ Page 84] how to use the column chooser.

### 6.4.1 Add Methods

In order to assign methods to assets, you will have to

- 1 Set up a method in **Methods**
- 2 Optional: e-sign the method
- 3 Optional: release the method
- 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).

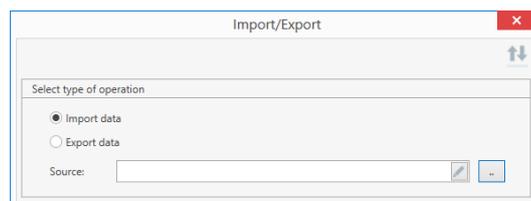
### 6.4.1.1 Add Methods manually

- 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

### 6.4.1.2 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.

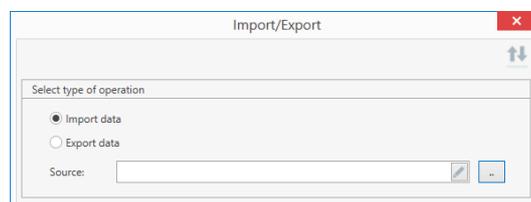


#### Step 2: Edit/Complete the upload file

- 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.



## 6.4.2 e-Sign Methods

If per your policies you need to e-sign a method, you need to e-sign the method before you can release it. Depending on your policy, either you can sign-off on your own method or someone else with the correct user rights will have to sign-off (default setting).

To do so,

- 1 Select the method (it will be marked )
- 2 Go to the record specifics screen
- 3 Click the e-sign icon 
- 4 Add a comment and click sign 

- 5 Authenticate yourself with your PipetteX credentials
- ➔ The record is now e-signed  and you can proceed to release or assign it

### 6.4.3 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 specifics screen
  - 3 Click the release icon 
- ➔ The record is now released  and can be assigned to a test plan

### 6.4.4 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 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. Please see section [Test plan logic ▶ Page 27] 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 the method in all the Pipettes/Balances/SmartChecks affected test plans to a newer version.

### 6.4.5 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  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 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 as shown in PipetteX.

### 6.4.6 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 prior to 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.

## 6.5 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. Please review section [Test plan logic ▶ Page 27] to understand the logic and possibilities around methods and test plans.

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

- 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 If you have multiple methods per test plan, define what is the default method (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. Please read section [Filter, search, column chooser ▶ Page 84] how to use the column chooser.

### 6.5.1 Add Test Plans

You can create new test plan following the below steps

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

### 6.5.2 Release Test Plans

If per your policies you need to release a test plan before you can use it, you need to release the test plan before you can push it to lab(s).

To do so,

- 1 Select the test plan (it will be marked .
- 2 Go to the record specifics 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 and click  to push the test plan live.

### 6.5.3 Update Test Plans

When you add a test plan, the version is automatically set to 1 and is incremented whenever you modify/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. Please see section [Test plan logic ▶ Page 27] on logic.

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

### 6.5.4 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.

## 6.6 Assets (Pipettes)

The assets view contains the details of all the Assets (Pipettes) and can be used to monitor Calibration and Service details. The key functionalities are explained below.

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, search, column chooser ▶ Page 84] how to use the column chooser.

### 6.6.1 Add Assets

There are several ways to add assets to the software:

#### 6.6.1.1 Add Assets Automatically

If you have METTLER TOLEDO Rainin 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.

#### 6.6.1.2 Add Assets Manually

You can add an asset by clicking  sign. Choose the Manufacturer and Model from the dropdown menu and add the serial number and your Asset ID (optional but recommended) as well as the 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 prior to releasing the asset.

#### 6.6.1.3 Add Assets via Import

You can mass upload pipettes to the software by using the import/export functionality. To do so, follow the following steps. If you have a release policy active, it is very important to assign an address to your assets that is known to PipetteX in your import list.

##### Step 1: Determine whether the columns in PipetteX asset view contain all the information you want

- 1 If yes, continue to step 2.
- 2 If no, click  and scroll down to "Custom Fields (additional information)". Define the Field Name (this will be the column header in the asset view), define the Data Type and the Field Length (amount of characters). Continue doing so till you have all fields created you need. (see section [Change asset view ▶ Page 84] for more detailed information.)

##### Step 2: Determine whether information needs to be stored on the RFID chip of RFID enabled pipettes

- 1 If no, continue to step 3.
- 2 If yes, remember that this information will only get stored on the RFID chip and hence are needed for RFID enabled pipettes. Define the Field Name, the Data Type and the Field Length. You can create a maximum of 4 fields and 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 3: 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 fields names at least for the mandatory ones (with \*). PipetteX will automatically try to link fields when the column names in the excel file matches with the field name used in the application.

##### Importing data directly from an existing file

###### 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

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

## 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  in the top right corner and your file uploads.
- ➔ Assets records that cannot be uploaded will be shown to you in a log file and will not be added in the PipetteX.

### Step 4: Verify Models

- 1 Click  in the status bar.
  - 2 Let the verification process against the METTLER TOLEDO Rainin database complete.
- ➔ Asset records that cannot be verified, will be marked "N/A -..." and will have to be manually updated by you.

### 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. In case this is not possible, you can verify Rainin RFID enabled pipettes by putting them on a connected SmartStand. PipetteX will import the model name from the RFID tag and overwrite it in PipetteX.
- If you cannot find the correct model, read section [4.5.1.4 ▶ Page 67].
- 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 the new version of PipetteX. Hence, it is helpful if you export an empty excel file and then update the file with the details to be imported.

### 6.6.1.4 Add New Models to the Model List

In order 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 in the request form and will get notified when the model request has been accepted and the model will get added to the model list. If the model request has been accepted, automatically it will get added to the model list in PipetteX. This requires an active Internet connection for the business server.

## 6.6.2 Release Assets

If per your policies you need to release an asset before you can use it, all you can do after having added the record to PipetteX is assign the asset to an address, save and follow the below steps 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.

## 6.6.3 Edit Assets

There are two ways to edit assets in PipetteX: through individual editing or bulk editing. In any case, you have to make sure that the pipette structure has been updated prior to editing the assets. If you have altered the pipette data structure in PipetteX (e.g. by defining custom fields for RFID tag or for the PipetteX database record – see [Custom Fields ▶ Page 85]) and/or if you modify asset data fields of a METTLER TOLEDO Rainin RFID pipette the first time you will be prompted to agree that the pipette data structure on the RFID tag will be overwritten. Unfortunately, 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

- In case of an RFID enabled pipette, make sure you have the pipette on a SmartStand when clicking “Update” in order 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 does not get updated correctly, which could lead to data conflicts in the future between PipetteX and the RFID tag.

### 6.6.3.1 Edit assets: individual

Once you have successfully loaded the asset data into the PipetteX database you can start enriching the data in the asset view. Please note that if you have 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, refer section [Methods ▶ Page 62].

#### 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 pipette verification process for non RFID Pipettes. See section [Smart Tags ▶ Page 69] how to set this up.

### 6.6.3.2 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 last and next service date.

Manufacturer and Model number 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 bulk edit screen can only be cleared or edited for non-RFID pipettes. If the selected pipette is non-RFID pipette or an invalid pipette or combination of both then it is not possible to edit any of the details.

Assets bulk edit
✕ ↗

**Asset data** ▲

Manufacturer	Please select...	✎
Model number		
Status	Please select...	✎

**Service data** ▲

Last service date	Please select...	✎
Next service date	Please select...	✎
Last calibration date	Please select...	✎ 🗑
Next calibration date	Please select...	✎ 🗑
Next routine test date	Please select...	✎ 🗑
SOP #	Please select...	✎ 🗑

**Address data** ▲

Address ID	Please select...	✎ 🗑
------------	------------------	-----

**User data** ▲

User ID	Please select...	✎ 🗑
---------	------------------	-----

**Financial data** ▲

Date placed into service	Please select...	✎ 🗑
Lifetime (months)	0	✎ 🗑 ✕
Warranty expiration date	Please select...	✎ 🗑

## 6.6.4 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
<b>Pipette serial nr</b>	•	•
<b>Pipette type</b>	•	•
<b>Nominal volume</b>	•	•
<b>Factory date</b>		•
<b>Last Service date</b>		•
<b>Next Service date</b>		•
<b>Last Calibration date</b>		•
<b>Next Calibration date</b>	•	•
<b>Next QuickCheck date</b>	•	•
<b>QuickCheck method</b>	•	•
<b>QuickCheck method version</b>	•	•
<b>Asset ID</b>		•

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.

### 6.6.4.1 Link SmartTags

- 1 To link a SmartTag, 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.

### 6.6.4.2 Unlink SmartTags

When the SmartTag is torn/damaged and is not functioning as expected, then you need to unlink the SmartTag from the pipette before affixing a new SmartTag to the pipette. You can unlink the SmartTag from the **Asset** page.

- 1 Select a pipette of which you wish to unlink 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.

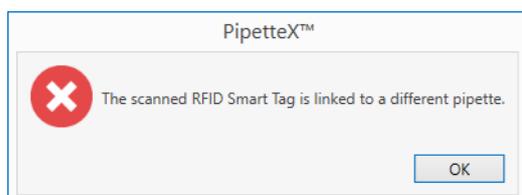
### 6.6.4.3 Update methods to SmartTags

If you change the method parameters for a method which is already written to a SmartTag either through PipetteX or through any external application (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.

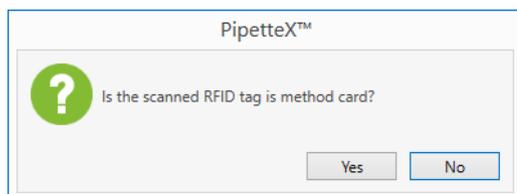
### 6.6.4.4 Errors

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.

## 6.6.5 Routine Test a Pipette

You can routine test a pipette in different ways. Please read section [Do I want to routinely test my pipettes? ▶ Page 8] to define what method fits best to your purpose. Depending on your chosen method, you now have a choice of hardware (SmartCheck and/or XPE/XSE balance), which you can configure in different ways.

Based on your setup, your point of starting the routine test for the pipette is different. Please read below how to perform the routine test.

### Note

- Before you can start the routine test, you have to assign a test plan with a pipette routine method to the pipette. Please read section 4.1.4 [Test plan logic ▶ Page 27] on how to do this.

### 6.6.5.1 Pipette routine test: SmartCheck standalone case

The start of performing the routine test is at SmartCheck and does not require an active connection to PipetteX. Please read the manual of SmartCheck how to perform the pipette routine test.

### Note

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

### 6.6.5.2 Pipette routine test: SmartCheck connected case

The start of performing the routine test is at PipetteX.

#### Prerequisites:

- Starting a routine test requires that you have a test method and test plan assigned to the pipette. Please read section [Test plan logic ▶ Page 27] on how to assign methods and test plans.
- Make sure 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. Please read the manual of SmartCheck how to perform the pipette routine test.
- ➔ After the test is completed, the result will get automatically captured in PipetteX.

### 6.6.5.3 Pipette routine test: SmartCheck autonomous case

The start of performing the routine test is 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. Please read section [Test plan logic ▶ Page 27] on how to assign methods and test plans.
- Make sure 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 autonomous mode.
- Make sure you have an RFID enabled pipette, either through the build-in Rainin RFID tag or by applying a SmartTag. Please read section [SmartTags ▶ Page 69] how to apply a SmartTag to a pipette.

#### Workflow:

- 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 get automatically captured in PipetteX.
- ➔ The SmartCheck will return to its previous state it was in.

**Note**

- A method card cannot be used for routine testing pipettes.

#### 6.6.5.4 Pipette routine test: XPE/XSE balance

The start of performing the routine test is 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. Please read section [Test plan logic ▶ Page 27] on how to assign methods and test plans.
- Make sure that the XPE/XSE balance is connected to PipetteX and the connection is active.
- Make sure you have an RFID enabled pipette, either through the build-in Rainin RFID tag or by applying a SmartTag. Please read section [SmartTags ▶ Page 69] 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.
    - ➔ Note that the QuickCheck application starts to work and prompts you to enter environmental data
  - 3 Follow the wizard and perform the test.
  - 4 At the end, hit **Print Result**, which will send the result to PipetteX.
    - ➔ The result will get automatically captured in PipetteX.
- ➔ If 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 start to work and prompts you to enter serial number of the pipette. The serial number of the pipette 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 At the end, hit **Print Result**, which will send the result to PipetteX.
  - ➔ The result will get automatically captured in PipetteX.

**Note**

- In case the writing to the RFID tag fails at the balance, do not worry. PipetteX will have capture 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.

#### 6.6.6 Documents

You can add documents to pipettes, SmartChecks and balances.

- **Calibration certificates:**  
You can add these either manually or automatically. To find out about how to automatically add these documents, please read section [Automation logic ▶ Page 21].
- **Routine test reports:**  
You can add these either manually or automatically. To find out about how to automatically add these documents, please read section [Automation logic ▶ Page 21].
- **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. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, search, and column chooser ▶ Page 84] how to use the column chooser.

### 6.6.6.1 Add documents

The updating of service/calibration as well as routine test dates and documents can be automated for pipettes and SmartChecks. Please review section [Automation logic ▶ Page 21] 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 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

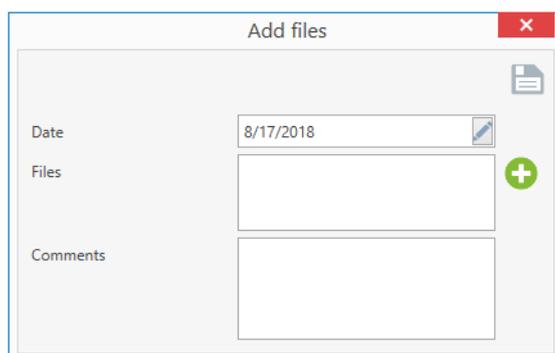
- When you select multiple certificates, the details you enter will be applied for all the certificates you have added.
- There is a restriction of 10 mb per file. If the file size exceeds this limits a warning message is displayed.

### 6.6.6.2 Assigning orphaned document records

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

### 6.6.6.3 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 them for easy identification.



### 6.6.6.4 e-Sign document

If per your policies you need to e-sign a document, you need to e-sign the document record before it becomes visible to other users of PipetteX. Depending on your policy, either you can sign-off on your own document or someone else with the correct user rights will have to sign-off (default setting).

To do so,

- 1 Select the record (it will be marked )
  - 2 Click the e-sign icon 
  - 3 Add a comment and click sign 
  - 4 Authenticate yourself with your PipetteX credentials
- ➔ The record is now e-signed  and you can proceed to release or assign it

### 6.6.6.5 Obsolete Document

You can obsolete a document record 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.

## 6.6.7 Export and Print Records

### 6.6.7.1 Export records

You can automate exporting asset records by using the scheduler functionality. Please read section [Scheduler ▶ Page 77] 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.

### 6.6.7.2 Print records

You can print each asset record to PDF. Select the record you need, click during the print option, you 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.

## 6.6.8 Track Pipettes

### 6.6.8.1 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 when a pipette is taken off the stand or put back on the stand and the pipette was either passed 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.

### 6.6.8.2 Pipette zoning

For critical work stations 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 in case of a mismatch between locations.

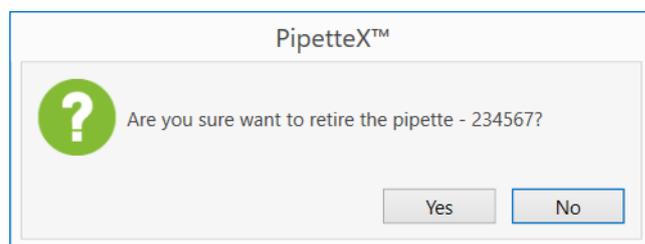
In order to set the zoning functionality up, you will have to assign an address to the SmartStand and an address to the pipette. That is all. PipetteX will now take care of the rest.

### 6.6.9 Delete Assets

When an asset is no longer used, you can "Retire" an asset by clicking . If the asset is set as "Retired" the asset will no more be displayed.

You can delete or retire more than one pipette at a time from the **Asset overview** screen.

If you retire the asset, it will be removed from the view. If you re-add the same pipette at a later stage again, PipetteX activates the old record again and continues to build on the old record.



## 6.7 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.

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

	Method card	XLS(+) RFID tag
Pipette serial nr		•
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. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, search, column chooser ▶ Page 84] how to use the column chooser.

### 6.7.1 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 Take a Method Card and hold it 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 in the list select the routine test method.
- 3 Type in the Asset ID of the card.
- 4 Assign address to the card.

### 6.7.2 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 have at least an active test plan defined in PipetteX – see section 3.3).
- 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 onto the card.

### 6.7.3 Edit Method Cards

Double click on a method card to view/change the content of the method card.

### 6.7.4 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.

### 6.7.5 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.

## 6.8 Calibration and Verification

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

Event status column in the asset view page indicates the last known pipette status. A  indicates calibration and verification have been successfully passed. A  indicates the failure during pipette verification, as found or as-left failure during calibration.

## 7 Settings

### 7.1 Scheduler

For assets (pipettes) you can schedule data exports and for SmartStand and SmartCheck you can schedule device software updates. In the grid of the scheduler you see the status of your scheduler.

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, search, column chooser ▶ Page 84] on how to use the column chooser.

#### 7.1.1 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. Important is 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 following path  
  
Default path: C:\Program Files (x86)\METTLER TOLEDO\PipetteX\Export
- 4 **Scheduler frequency details**
  - Define schedule date 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 system and IT knowledge. Depending on your system settings, PipetteX might detect 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 to.
- 3 Right click the folder and click on "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" enter 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 and under "Permissions for" in column "Allow" select at least "Modify", "Read and execute", "List folder content", "Read"; alternatively just give "Full control". 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 following steps 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 on 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.

#### 7.1.2 Add scheduler: device software update

You can schedule the device software 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: device software update
- 3 **Device software 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 device software 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 schedule date time
  - Define scheduler frequency details: you can run the export once or multiple times.
- 6 Click save .

#### Note

- Only for SmartStand, 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. Whereas If 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 which are yet to be approved or in release pending status.

### 7.1.3 Edit scheduler

At 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.

### 7.1.4 Delete scheduler

At 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 if is a recurring scheduler. Select the record, click , and confirm.

## 7.2 Comments

Comments is only applicable to those using e-sign policies and allows you to standardize e-signature comments (speeding up the e-signing process for users).

The overview grid shows key information. Please note that there are more data points available through the column chooser functionality. Please read section [Filter, views, column chooser ▶ Page 84] how to use the column chooser.

### 7.2.1 Add comments

To add a comment, please follow the steps below:

- 1 Click .
- 2 Give a Comment ID.
- 3 Write down the comment (this becomes the text a user can then choose from in the dropdown menu when signing off on a record)
- 4 Click save .

### 7.2.2 Edit comments

At any time can you edit an existing comment if you have the correct user permission. Double click the record, change the parameters, and save.

### 7.2.3 Delete comments

At any time can you delete an existing comment if you have the correct user permission. Select the record, click , and confirm

## 7.3 Settings

### 7.3.1 General settings

In general settings you set:

- **Language:** PipetteX supports English, Chinese (simplified + traditional), French, German, 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):** default 1 yr, you can increase this if needed.

### 7.3.2 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 Active Directory user is renamed or reset the password in the Active Directory, then the user needs to first login 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.
- **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:** by switching this on, you can define after 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 get notified to change their passwords in order to prevent being logged out from PipetteX.
- **Screen lock:**
  - By switching screen lock on, you can define after how many minutes users get automatically logged-off from PipetteX.

### 7.3.3 Email notifications

#### 7.3.3.1 Notifications: types

PipetteX can trigger multiple email notifications. Please read below 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 settings your IT system admin needs to provide you. The sender email address will be the email address that is shown as the sender of the email when the notification comes in your inbox. E.g. [▶ pipetteX@testlab.com](mailto:pipetteX@testlab.com)
- **Alert settings**  
For each of the alerts you can define who the alert has to be send 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 Rainin)
- 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 himself out an admin can be informed to reset the password.

#### 7.3.3.2 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
Lab1	A6400000 02   2	Admin	12/25/2019	12/25/2019	RAININ	L-2XLS +	Fixed	1	1232	B12

#### 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
----------	--------------------	-------	-------------------	-----------------------	--------------	--------------	--------------	----------	---------------	----------

Lab1		Admin	12/25/2019		MettlerToledo	SmartCheck			1232	B03
------	--	-------	------------	--	---------------	------------	--	--	------	-----

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
Lab1	A64000000212	Admin	12/25/2019	RAININ	L-2XLS+	Fixed	1	12345678	B49

**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
Lab1		Admin	12/25/2019	Mettler Toledo	SmartCheck			12345678	

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	A64000000212	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	A64000000212	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	A6400000 02   2		2/7/2020	12/22/2019	RAININ	L-2XLS +	Fixed	1	D105522 5T	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	A6400000 02   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 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	1234658 7	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		A64000000 2   2	Lab2	RAININ	L-2XLS +	Fixed	1	D1055225 T	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		

## 7.3.4 Policies

Please read section [Policies ▶ Page 15].

### 7.3.4.1 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 a policy active or not for the category
  - 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 prior to the policy becoming effective, the records are assumed released and will get 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.

### 7.3.4.2 Enable e-sign policy

To enable an e-sign policy, go to **Settings > Policies**.

1. Enable e-sign policies by switching the switch to ON
2. For each of the 2 categories you can now determine whether
  - You want a policy active or not for the category
  - What user role can e-sign (this will be the same user role for each address afterwards)
  - To what address the policy applies
  - Whether a 4-eye principle is required. Default, you cannot sign-off on your own uploaded documents. Only if you mark the tick in the tickbox, you allow yourself to sign-off on your own uploaded documents (so you are disabling the 4-eye principle by marking the tickbox).
3. Click save

Once the policy is assigned to a lab and activated, it becomes effective right away. Any document record that now become subject to the policy, will have to be e-signed. Previously uploaded documents remain in status non-affected.

## 7.4 PipetteX Updates

You can check for updates of PipetteX by going to **About** in the  help section. Whether you can or cannot update PipetteX will depend on your user rights. Please review section 2.4 before you start an update.

## 8 Views

There is a lot of flexibility in the software for changing the views within the software. Please read below about your options.

### 8.1 Filter, search, column chooser

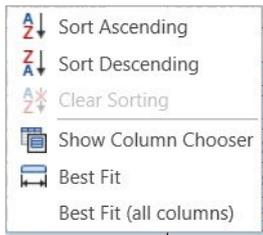
In all grids you have several search, sorting and filtering options. This helps you to quickly get to data.

#### Search

You can search each field for specific contents by entering the details to be searched in the first row under **Search**. The matching fields then are listed in the view.

#### Sort, resize and (re)move columns (move to general section)

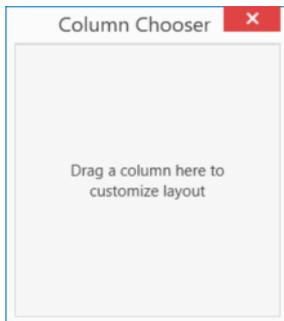
You can sort data ascending or descending by right clicking on the header and select **Sort Ascending** or **Sort Descending**.



You can resize the 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 column.

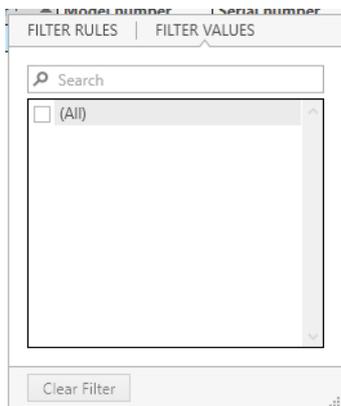
#### Add and remove columns

You can add/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 get stored in your local user settings.



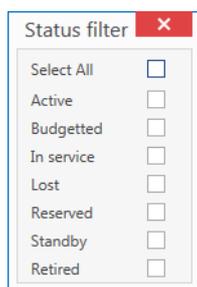
#### Filter

You can filter the data by either 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 popup window. Note that the filter options vary based on the type of field you have selected (Text, number or date).



You can filter the values also 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



A dialog box titled "Status filter" with a close button (X) in the top right corner. It contains a list of status options, each with a checkbox to its right:

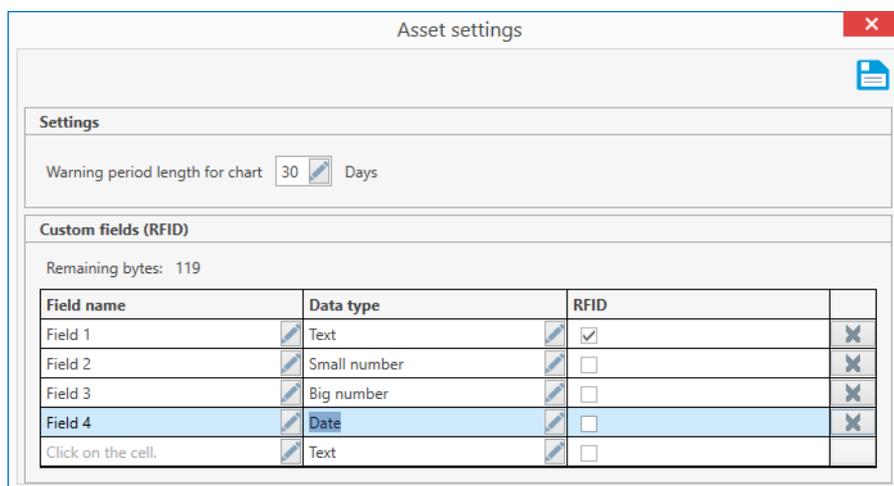
- Select All
- Active
- Budgetted
- In service
- Lost
- Reserved
- Standby
- Retired

## 8.2 Custom fields (assets only)

In addition to the fields available for the assets, you can add few more fields which can be stored in the database and also some of the selected custom fields can be written to the RFID pipettes. Please note that the custom data you can write to the RFID Pipettes is restricted to 4 fields.

Use custom fields as follows:

- 1 Click  from the Assets view page.
- 2 Under **Custom Fields** define
  - **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 like this. Small number are any numbers below 65535.
    - **Big number:** if the value is just 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
    - Check if you wish this field value to be written to 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 happen to 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 loss of data between PipetteX and Calibry after a successful write in Calibry.



A dialog box titled "Asset settings" with a close button (X) in the top right corner. It contains two sections:

**Settings**

Warning period length for chart  Days

**Custom fields (RFID)**

Remaining bytes: 119

Field name	Data type	RFID	
Field 1	Text	<input checked="" type="checkbox"/>	
Field 2	Small number	<input type="checkbox"/>	
Field 3	Big number	<input type="checkbox"/>	
Field 4	Date	<input type="checkbox"/>	
Click on the cell.	Text	<input type="checkbox"/>	

### 8.3 Set user specific asset views

You can define which user sees which asset in PipetteX. See the table below on how to setup the specific views.

View	Users	Addresses	Assets
<b>Lab manager sees all assets in just his/her lab</b>	<ol style="list-style-type: none"> <li>1. Set up Lab manager as user</li> <li>2. Assign Lab manager "Lab Manager" user Profile</li> </ol>	<ol style="list-style-type: none"> <li>1. Set up Lab as address</li> <li>2. Add Lab Manager as user to Lab Address</li> </ol>	<ol style="list-style-type: none"> <li>1. Assign address to asset</li> </ol>
<b>Each researcher sees just his assets. Lab Manager sees all assets in his lab</b>	<ol style="list-style-type: none"> <li>1. Set up Lab manager as user</li> <li>2. Assign Lab manager "Lab Manager" user Profile</li> <li>3. Set up Researcher as user</li> <li>4. Assign Researcher "researcher" profile</li> </ol>	<ol style="list-style-type: none"> <li>1. Set up Lab as address</li> <li>2. Add Lab Manager as user to Lab Address</li> </ol>	<ol style="list-style-type: none"> <li>1. Assign address to asset</li> <li>2. Assign asset to researcher</li> </ol>
<b>Researcher can see any asset in the lab</b>	<ol style="list-style-type: none"> <li>1. Set up Researcher as user</li> <li>2. Add "See Assigned Lab Records" to user right profile of researcher</li> <li>3. Assign Researcher new "researcher" profile</li> </ol>	<ol style="list-style-type: none"> <li>1. Setup Lab as address</li> <li>2. Add Researcher as user to Lab Address</li> </ol>	<ol style="list-style-type: none"> <li>1. Assign address to asset</li> </ol>

### 8.4 Archive view

With the archiving functionality for asset data (see section [DB Utility ► Page 87] how to archive data) you can blend in this archived data if you need to consult it again. The archived data cannot be changed.

To blend 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 blend in

To undo the archive data view, select the production view.

## 9 Additional Utilities

### 9.1 Database Utility

The database utility installs automatically with PipetteX and can be found through the Windows Start Menu in the folder Mettler Toledo -> PipetteX DB Utility.

The DB Utility serves two purposes:

1. It allows you to make database back-ups and restore back-ups.
2. It allows you to archive data to reduce the DB size.

#### 9.1.1 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 own path if needed (ensure that the path can be written too)

At the end, click backup and the file is generated.

The backed up database can be restored back using PipetteX - DB Utility tool. Before performing the restore operation, please ensure PipetteX application is not up and 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**

- Please note Service certificates of Pipettes/Assets in PipetteX are not stored inside the database. In order to reduce database size and improve the system performance PipetteX stores calibration certificates, routine test reports & manually added files in a separate folder in PC hardware where Business Server was installed. Usually on a path that looks similar to this:

- C:\Users\Public\Mettler Toledo\PipetteX\Certificates

- Hence while during database backup, it's also your responsibility to manually copy the above certificates from the mentioned folder and backup it.

- **Restore/Place Certificate Folder**

- [During database restore in a different PC hardware]

- Once the database restore was successful, Move the 'Certificates' folder also (containing calibration certificates, routine test reports & manually added files) to the public folder of the new PC; file directory must have created in C:\ drive (if not already exist) and should be same as below

- C:\Users\Public\Mettler Toledo\PipetteX\Certificates

- 'Certificates' folder and files should not have any user restriction.
- Files and folder should be accessed from network, in order to have Read-Write access from distributed setup.
- Only the backups taken using PipetteX - DB Utility tool will be supported in the RESTORE option. That is, Database backup taken 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 taken using a higher version of SQL (e.g. 14.0.1000) cannot be restored to lower version of SQL (e.g. 11.0.3000)

#### 9.1.2 Archiving data

Archiving data can be simple way to 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-[end date of archive]dd-mmm-yyyy. You can change this name to your liking.
- **Start date:** this is the date from where the archive will start.
- **End date:** this is the date at which the archive cuts off.

- **Purge date:** this is the date up until 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.

#### **Note**

- If you decide to archive data, all this data will no longer be available for editing in PipetteX.

## **9.2 Installation Checker**

With PipetteX also the installation checker gets installed. This is a very useful tool to check whether PipetteX installed correctly and whether all parts of the software are working properly. Also for validation purposes, the installation checker has a lot of value to 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 have checked.
- 3 Click **Check System**.

You can save and/or print the report.

## 10 Log Files

PipetteX logs every change made to the data, system settings, or peripheral settings in the software and makes this available in human readable format. Log files can be retrieved through the installation checker. Open the installation checker (see section 9.2 Installation Checker) 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:

- Assetdelete
- Certificates
- Licensing
- Updates
- Logging

Client:

- Import/export
- Instruments
- Logging
- Config

To get to the log files you will have to run the installation checker either in the business server environment or client.

# 11 Appendix

## 11.1 User Rights

### Assets Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Import data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Print	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Link Smart Tag	Yes	-		Yes			No			Yes		
Export usage history	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Settings	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Certificates	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Non-Labeled certificates	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Switch to archive	Yes	-	-	No	-	-	No	-	-	No	-	-
Setup new RFID tag	Yes	-	-	No	-	-	No	-	-	No	-	-
Edit corrupted RFID tag	Yes	-	-	No	-	-	No	-	-	No	-	-
Refresh sync	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	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset category	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset type	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Manufacturer	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Model number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Serial Number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Manufacturing date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Nominal volume [µl]	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Process tolerance [T%]	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
RFID enabled	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Volume settings	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Channels	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
RFID UID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Last service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Next service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Last calibration date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Next calibration date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Next routine test date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Test plan	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Routine test method	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
SOP #	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Last seen location (reader)	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Last seen (time)	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Reader location	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Full name	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User email	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User phone	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
City	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
State	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Zip code	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Country	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Date placed in service	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Age of asset	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	Yes	N/A
Lifetime (months)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Lifecycle position [%]	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	Yes	N/A
Warranty expiration date	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Depreciable Item	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Purchase value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Salvage value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Custom fields (RFID)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Custom fields (Additional information)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Warning period length for chart	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Customize custom fields	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Usage frequency	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Update pipette structure	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

## Balances Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Certificates	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Standalone mode	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Switch to archive	Yes			No			No			No		
Firmware update	Yes	-	-	Yes	-	-	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	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset category	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset type	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Manufacturing	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Model number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Serial number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Manufacturing date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Firmware version	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Last service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Next service date	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Next routine test date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Test plan	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	N/A
System mode	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Connected gateway	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Process tolerance [T%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
SOP #	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
IP address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Usage frequency	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Full name	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User email	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User phone	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
City	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
State	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Zip code	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Country	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Date place into service	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Age of Asset	-	Yes	No	-	Yes	No	-	No	No	-	Yes	No
Lifetime (months)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Lifecycle position [%]	-	Yes	No	-	Yes	No	-	No	No	-	Yes	No
Warranty expiration date	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Depreciable item	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Purchase value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Salvage value	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

### Readers Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Firmware update	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Sync Date & Time with stand	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Manufacturer	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Model number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Serial number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Firmware version	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Connected gateway	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Pipette 1	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Pipette 2	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Pipette 3	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Pipette 4	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Date format	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Time format	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Date/Time	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Display brightness	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Calibration alarm settings	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Dwell screen On time	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Local modification lockout	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
RFID read-out stability period (seconds)	-	Yes	Yes	-	Yes	No	-	No	No	-	Yes	Yes
Historical count log	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Wireless connectivity frequency (seconds)	-	Yes	Yes	-	Yes	No	-	No	No	-	Yes	Yes
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
City	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
State	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Zip code	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Country	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Sync Date & Time with stand	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

### Gateways Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Add gateway	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Retire gateway	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Unassigned lab records	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Manufacturer	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Model number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Serial number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
IP address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Connected SmartCheck	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Connected RFID reader	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
City	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
State	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Zip code	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Country	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A

## Method Cards Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Erase card	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk Edit	Yes	-	-	Yes	-	-	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	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset category		Yes	Yes		Yes	Yes		Yes	No		Yes	No
Manufacturer	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Model number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
RFID UID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Method category	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Test plan	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Method type	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Routine test method	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Status	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Nominal volume (µl)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Interval (days)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method specifications	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Full name	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User email	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
User phone	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Address	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
City	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
State	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Zip code	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Country	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A

## Methods Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Import data	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Method ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Version	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Method category	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Asset category	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Created on	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Created By	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Method type	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
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
Repeat test when failed	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Block device when failed	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
SOP#	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	N/A
Process tolerance [T%]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Evaporation trap required [Y/N]	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Number of measurements	-	Yes	Yes	-	Yes	Yes	-	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
Review comments	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Nominal weight (gram)	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Method definition	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	No
Status	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A

Note: By default Method ID will be shown when edit permission for all fields is removed. If all the fields have been removed you cannot add fields via column chooser.

### Address Management Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
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	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Address ID	-	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
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
Building	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Floor	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Room	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Workplace	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
City	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
State	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Zip Code	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Country	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Bill-to number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Sold-to number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Ship-to number	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
User	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Test plan ID	-	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

Note: By default "Address ID" field will be shown when edit permission for all fields is removed. If all the fields have been removed you cannot add fields via column chooser.

### User Management Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	No	-	-	No	-	-	No	-	-
Add	Yes	-	-	No	-	-	No	-	-	No	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Import data	Yes	-	-	No	-	-	No	-	-	No	-	-
Export data	Yes	-	-	No	-	-	No	-	-	No	-	-
See Lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All records	Yes	-	-	No	-	-	No	-	-	Yes	-	-

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Search Active Directory	-	Yes	Yes	-	Yes	No	-	No	No	-	Yes	No
User Name	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
AD User	-	Yes	No	-	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
User ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
User phone	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
User email	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Password	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Address ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

Note: Only Admin role can edit the password of other users.

#### Role Configuration Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	No	-	-	No	-	-	No	-	-
Add	Yes	-	-	No	-	-	No	-	-	No	-	-
Edit/Bulk edit	Yes	-	-	No	-	-	No	-	-	No	-	-
<b>Fields:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Role ID	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Inherited from	-	Yes	Yes	-	Yes	No	-	Yes	No	-	Yes	No
Status	-	Yes	Yes	-	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

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
<b>Fields:</b>												
Language	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Tray Notifications	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
METTLER TOLEDO data sync refresh rate (hrs)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Retention for archives	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Retention duration (years)	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

### Security Settings Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
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

### Notifications Settings Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Edit	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
Enable Notifications*	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
SMTP mail server settings*	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Settings validation	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes
Alerts settings	-	Yes	Yes	-	Yes	Yes	-	No	No	-	Yes	Yes

### Policy Settings Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
CanViewReleasePolicy	Yes	-	-	No	-	-	No	-	-	Yes	-	-
Edit	Yes	-	-	No	-	-	No	-	-	Yes	-	-
<b>Fields:</b>												
E-Sign policy	-	Yes	Yes	-	No	No	-	No	No	-	Yes	Yes
Release policy	-	Yes	Yes	-	No	No	-	No	No	-	Yes	Yes

### Export Scheduler Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Scheduler view	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Create	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Edit	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Perform export	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Perfrom firmware update	Yes	-	-	Yes	-	-	No	-	-	No	-	-

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Fields:</b>												
Schedule history	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
System ID	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
Schedule ID	-	Yes	Yes	-	Yes	Yes	-	No	No	-	No	No
Schedule type	-	Yes	Yes	-	Yes	Yes	-	No	No	-	No	No
Last schedule status	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
Status	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
Schedule date and time	-	Yes	Yes	-	Yes	Yes	-	No	No	-	No	No
Last schedule status time	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
last completed time	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
Created on	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A
Created by	-	Yes	N/A	-	Yes	N/A	-	No	N/A	-	No	N/A

#### License Manager Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
License Manager	-	Yes	-	-	No	-	-	No	-	-	No	-

#### Documents Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Obsolete	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Export data	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Perform test	Yes	-	-	Yes	-	-	Yes	-	-	No	-	-
<b>Fields:</b>												
Model number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Manufacturer	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Process tolerance [T%]	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Serial number	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Asset ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Test plan ID	-	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
Date of work	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Date	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
File	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Type of work	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
As-found result	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
As-left result	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
Test volume (µl)	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Test uncertainty U (%)	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Expansion factor (k)	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Spare Parts	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Interval (days)	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Method ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Status	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Performed on	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Performed by	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Comments	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes
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	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Documents	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Documents and Files	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	Yes

Note: By default File will be shown when edit permission for all fields is removed. Since when all the field is removed we cannot add fields via column chooser.

#### Non-labeled Documents Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Obsolete	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Link	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-

#### Event Viewer - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Screen rights:</b>												
Event viewer	Yes	-	-	Yes	-	-	Yes	-	-	No	-	-
<b>Functions:</b>												
Delete	Yes	-	-	Yes	-	-	No	-	-	No	-	-

#### Audit Trail - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Screen rights:</b>												
Audit Trail view	Yes	-	-	Yes	-	-	No	-	-	No	-	-
<b>Functions:</b>												
Print	Yes	-	-	Yes	-	-	No	-	-	No	-	-
View switching	Yes			Yes			No			No		
<b>Show rights:</b>												
Record time UTC	-	Yes	-	-	Yes	-	-	No	-	-	No	-

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
Record time (Local)	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Transaction ID	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Category	-	Yes	-	-	Yes	-	-	No	-	-	No	-
System ID	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Action type	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Description	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Review comments	-	Yes	-	-	Yes	-	-	No	-	-	No	-
User ID	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Executed on	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Reviewed on	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Reviewed by	-	Yes	-	-	Yes	-	-	No	-	-	No	-
Reason	-	Yes	-	-	Yes	-	-	No	-	-	No	-

Note: By default "Category" field will be shown when edit permission for all fields is removed. Since when all the field is removed we cannot add fields via column chooser.

#### Test Plan - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Retire	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Add	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
Edit/Bulk edit	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
Push to address	Yes	-	-	Yes	-	-	No	-	-	Yes	-	-
See Assigned lab records	Yes	-	-	Yes	-	-	Yes	-	-	Yes	-	-
See All Records	Yes	-	-	No	-	-	No	-	-	Yes	-	-
<b>Show rights:</b>												
System ID	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Test plan ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Asset category	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes
Created on	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Created by	-	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
Version	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A	-	Yes	N/A
Address ID	-	Yes	Yes	-	Yes	Yes	-	Yes	No	-	Yes	Yes

#### Comments Screen - Default Permissions

	Administrator			Lab Manager			Researcher			Service Administrator		
	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit	Allow	Show	Edit
<b>Functions:</b>												
Add	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Save	Yes	-	-	Yes	-	-	No	-	-	No	-	-
Retire	Yes	-	-	Yes	-	-	No	-	-	No	-	-

## 11.2 Errors and Solutions

### Error messages in PipetteX

Section	Error Message	Reason	Solution
User accounts	The user does not exist.	The enter 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.
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

Section	Error Message	Reason	Solution
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 some other 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.
Asset configuration	Date placed in service cannot be before manufacturing date.	Per default the placed in service date should 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

Section	Error Message	Reason	Solution
Asset configuration	Remaining bytes cannot be less than zero.	In total, there is 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	Please 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 is 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	Please 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.
Bluetooth	Failed to pair with the device.	Pairing not successful	There are multiple scenarios to resolve these error, please 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 $\leq$ 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	Legacy authentication error.	Pairing not successful	<p>There are multiple scenarios to resolve these error, please follow one or more of the below steps,</p> <ol style="list-style-type: none"> <li>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.</li> <li>If unsuccessful with step 1, then follow any of the below steps.</li> <li>2) Check the Bluetooth driver is installed correctly</li> <li>3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0)</li> <li>4) Restart the PC and try again</li> <li>5) Factory reset the smart stand and try again</li> <li>6) Power off the smart stand and power on and try again.</li> </ol>
Bluetooth	Numeric comparison error.	Pairing not successful	<p>There are multiple scenarios to resolve these error, please follow one or more of the below steps,</p> <ol style="list-style-type: none"> <li>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.</li> <li>If unsuccessful with step 1, then follow any of the below steps.</li> <li>2) Check the Bluetooth driver is installed correctly</li> <li>3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0)</li> <li>4) Restart the PC and try again</li> <li>5) Factory reset the smart stand and try again</li> <li>6) Power off the smart stand and power on and try again.</li> </ol>
Bluetooth	Pass key error.	Pairing not successful	<p>There are multiple scenarios to resolve these error, please follow one or more of the below steps,</p> <ol style="list-style-type: none"> <li>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.</li> <li>If unsuccessful with step 1, then follow any of the below steps.</li> <li>2) Check the Bluetooth driver is installed correctly</li> <li>3) Make sure in the SmartStand confirmation check has been checked (SmartStand firmware v ≤ 1.1.1.0)</li> <li>4) Restart the PC and try again</li> <li>5) Factory reset the smart stand and try again</li> <li>6) Power off the smart stand and power on and try again.</li> </ol>

Section	Error Message	Reason	Solution
Bluetooth	Pass key notification error.	Pairing not successful	There are multiple scenarios to resolve these error, please 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.	The User does 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 or with an non	Please 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 manual 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 manual 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 Rainin 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 Rainin 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 Rainin 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 Rainin 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 been assigned to the Pipette. Therefore no routine test measuring tolerance can be performed.	Pipette has not been assigned an 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.
Certificates – Asset	SmartCheck container is full.	When the vessel is full.	Empty the vessel in the SmartCheck and start the routine test.

Section	Error Message	Reason	Solution
Certificates – Asset	SmartCheck container over loaded.	When the SmartCheck vessel is over loaded.	Make sure 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 to 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 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 to 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 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 connect 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 or with an non	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.
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.

<b>Section</b>	<b>Error Message</b>	<b>Reason</b>	<b>Solution</b>
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.
Bulk Edit – Balance	Current selection contains obsoleted documents, please unselect those documents to edit.	The obsoleted documents cannot be edited.	Select the documents that are s in active state.

Section	Error Message	Reason	Solution
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 is 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 <a href="http://www.mt.com/rainin-sstanddocs">www.mt.com/rainin-sstanddocs</a> and download the document.
Help	Please install 'PDF Reader' to view the help file.	No PDF read tool installed on your PC	Go to <a href="https://get.adobe.com/reader">https://get.adobe.com/reader</a> 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.	In order 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 * in the import/export screen. Make sure 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 ASCII characters	Remove any non-ASCII 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.
Import/Export	The selected file is empty.	The import file cannot be empty in order to have a successful import	Please update your import file or select a filled out import file.

Section	Error Message	Reason	Solution
Import/ Export	The selected file was not found.	Your import / export file could not be found anymore in the specified file location	Please 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. By no means 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.
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.



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**Mettler-Toledo GmbH**  
Im Langacher 44  
8606 Greifensee, Switzerland  
[www.mt.com/contacts](http://www.mt.com/contacts)

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