



SmartLog Pro[®] Manager

User Guide

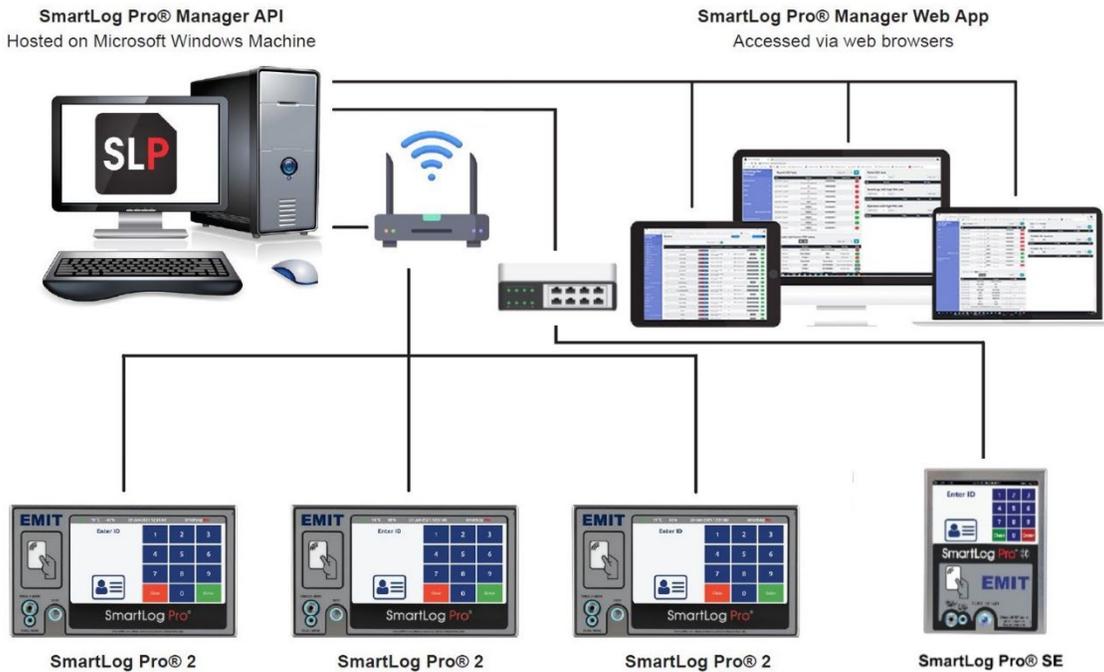
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Overview

SmartLog Pro® (SLP) Manager is a distributed software system designed for control, monitoring, and management of SmartLog Pro® SE and SmartLog Pro® 2 testers. The figure below illustrates what the most basic and common system architecture looks like:

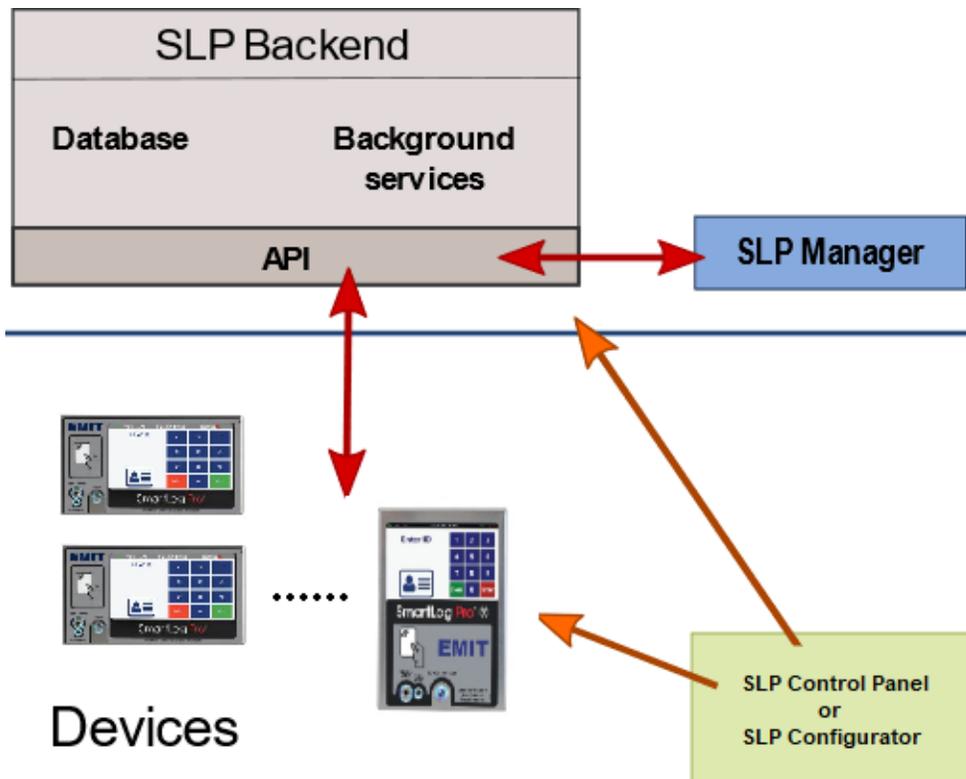


All devices are connected to a local network together with a computer running server software.

In general, SLP Manager has much more flexible architecture with loosely coupled components:

NOTE

Wi-Fi communication is available, but a LAN connection is recommended for optimal performance. Wireless communication has limited range and may affect communication performance, connection stability and software functionality. It's recommended you check with your network administrator on compatibility.



SLP Backend is the core of the whole system. It contains system data store, background processing logic and public service layer that all other components use. SLP Backend is implemented as .NET web application and hosted on IIS under Windows OS. Public services are implemented as web API (JSON over HTTP(S)).

SLP Manager is main system application used for administration, control, monitoring and system management. It is implemented as SPA web application (with Aurelia framework). Even though not strictly required, SLP Manager is hosted on the same computer as SLP Backend. It is also standard that SLP Manager is publicly accessible over the internet although all other scenarios are supported (local intranet, VPN, cloud).

SmartLog Pro® SE and SmartLog Pro® 2 devices can work standalone but when connected to SLP communicate with the API in real time.

SmartLog Pro® Control Panel - is our latest application used for system components installation, configuration and upgrade. New installations should follow the instructions for this version.

SLP Configuration is an older application used for system components installation, configuration and upgrade. Used if you are re-installing a system that was previously installed with the **SLP Configuration** application.

SmartLog Pro® (SLP) Manager is designed for:

- reliability
- performance
- extensibility
- scalability

System Requirements

NOTE

Installation links for the apps referenced below will be available throughout the user guide as well as provided by the EMIT Customer Service team.

PC/Server

- Windows OS (all versions)
- IIS with ASP.NET
- .NET Hosting Bundle Microsoft .NET 8.0.13 - Windows Server Hosting (x86) (SLP CONTROL PANEL requirement)
- Microsoft SQLite. (SLP CONTROL PANEL requirement)
- Microsoft SQL Compact 4 Edition (SLP CONFIGURATION requirement)
- URL Rewrite module
- 4GB of RAM / 2GB of free disk space
- Server hosting the software requires internet access to perform the installation and to receive updates hosted on the Desco website. If not allowed or available, alternative options are available. Please contact **EMIT Customer Service** for further details.
- **To access the backend database through a webpage, ports 17200 and 17205 need to be allowed for inbound and outbound access.**
- Microsoft Edge or another current Internet Web Browser (Firefox, Safari, Chrome, etc.). The software **cannot be used** with Microsoft Internet Explorer

SmartLog Pro® SE and SmartLog Pro® 2

- Devices must reside on the same subnet as the server hosting the data for the initial configuration of the server location (an alternative method is available if this is not possible; see the Connected Devices Configuration section below)
- DHCP and UDP need to be enabled. UDP broadcasts are performed during the initial setup using UDP port 9111
- **All communication between the SmartLogs and software is done through HTTP (generally port 80) so that will need to be allowed for inbound and outbound access.**
- Internet access is recommended to obtain the local time/date on the SmartLog. If this is not allowed or available, the SmartLog will synchronize time/date with the Web Manager Software hosted on the Server.

Server Installation

Prerequisites

SLP CONTROL PANEL VS SLP CONFIGURATION APPLICATION FOR INSTALLATION

Two applications are detailed in this user guide for installing the system components. **SLP Control Panel**, which utilizes SQLite, is the latest version. It was created because the older **SLP Configuration** application and Microsoft SQL Compact will no longer be receiving updates. The **SLP Configuration** instructions will remain in this guide for customers that previously installed their system with it, have not updated to **SLP Control Panel**, and need to move the program (thus requiring re-installation). Please contact **EMIT Customer Service** with any questions regarding this topic prior to installing the program.

NOTE

Microsoft SQL Compact is no longer supported by Microsoft. Any new updates to **SmartLog Pro® (SLP) Manager** will only be available to those using **SLP Control Panel**. No further client updates will be made for **SmartLog Pro® SE devices**. New client updates will only be available for **SmartLog Pro® 2 devices**. If you are using the **SLP Configuration** application, it is recommended that you contact **EMIT Customer Service** for assistance to migrate your data to SQLite.

IIS (Internet Information Server)

SLP Backend is implemented as ASP.NET Web API encapsulating entire application logic, working with system data store (database), generating reports, sending e-mails, etc. To make all of this possible, target machine (server) must have Microsoft IIS installed (enabled) and configured properly.

Desktop OS (Windows 10 or 11)

On windows desktop systems IIS is enabled on **Control Panel -> Programs**:

Step 1: open Control Panel

Use Windows search box:

All Apps Documents Web More

Best match

Control Panel
App

Apps

- Settings >
- PrimoPDF Settings >
- Run >
- Windows Administrative Tools >

Settings

- Eye control settings >
- Controlled folder access >
- App & browser control >
- Game bar controller settings >

Search the web

- control - See web results >

Documents

- Control_Spire.cfg >
- ai_controller.cfg >
- ai_controller_backup.txt >

Photos

- control-spire-low.png >
- control-spire-high.png >

Folders

- Controllers - in dotnet-core >
- Controllers - in AureliaDotnetTemplate-master >
- console-control-strings >

Control Panel
App

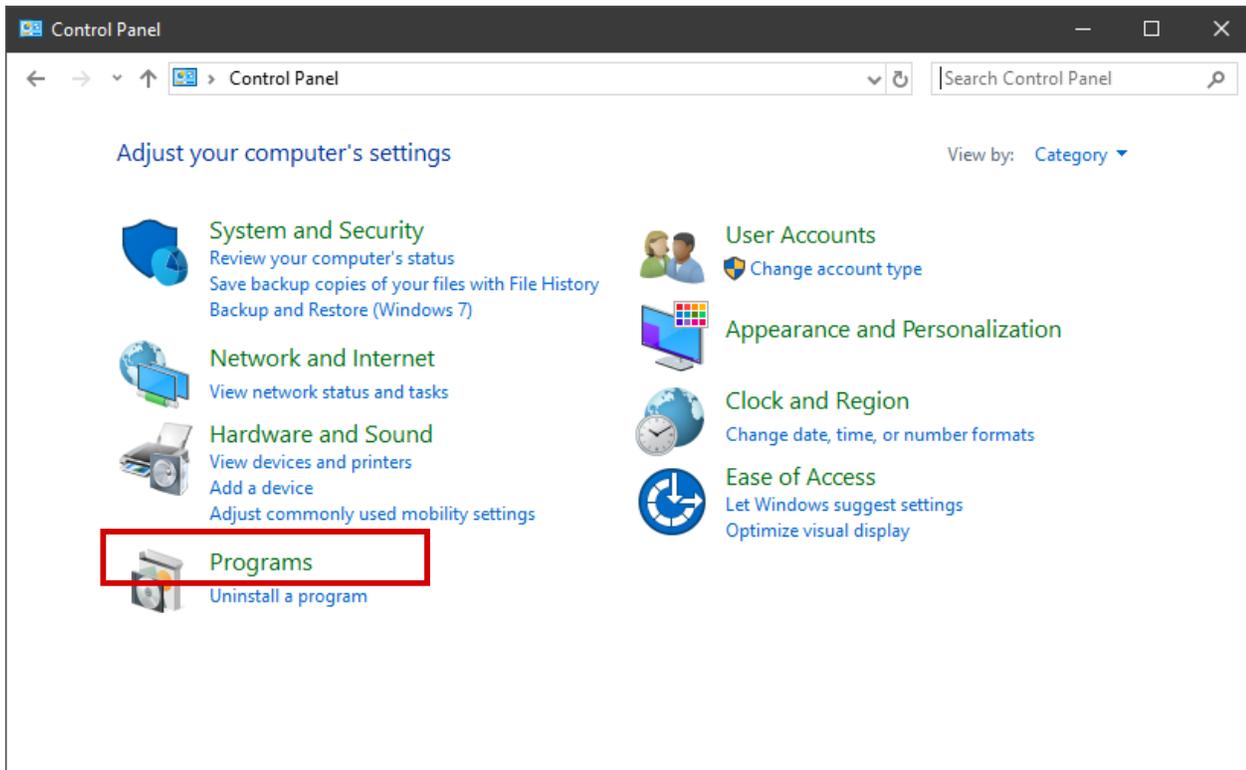
Open

Recent

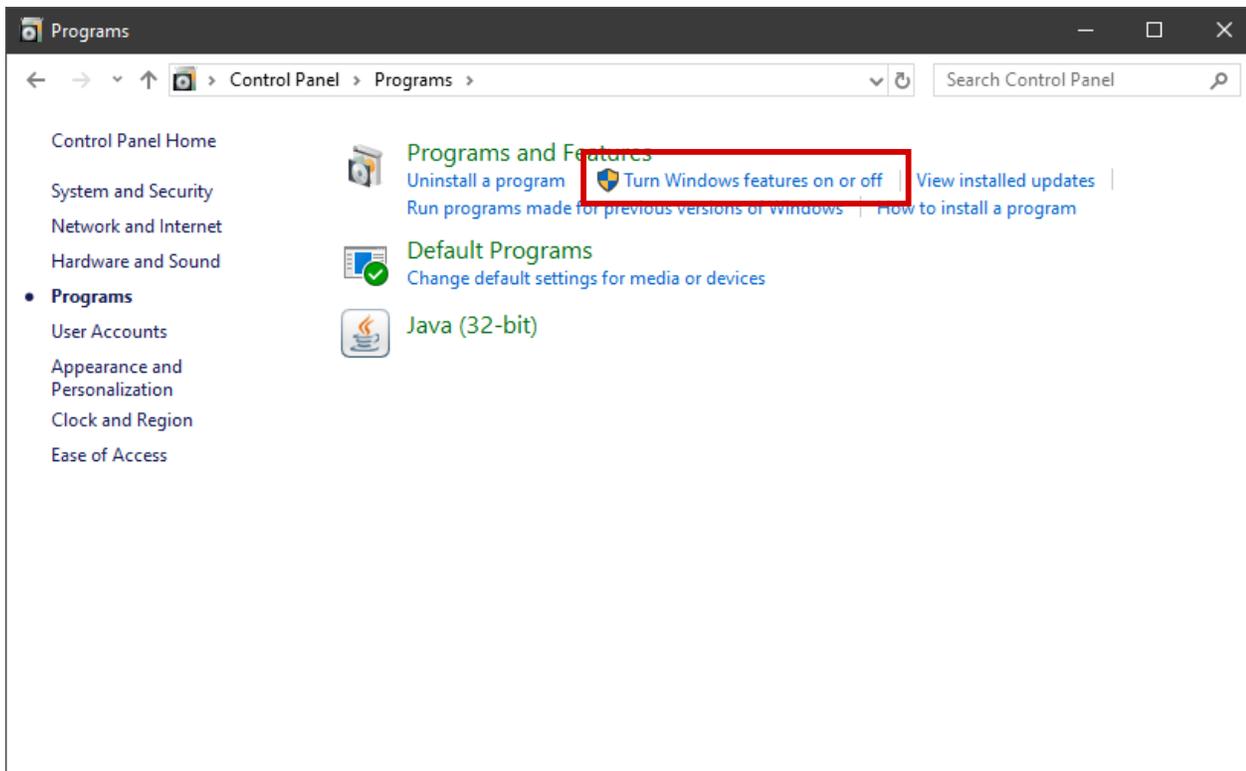
- Turn Windows features on or off
- Programs and Features
- Windows Administrative Tools
- Device Manager
- System
- Uninstall a program
- Devices and Printers
- Choose a power plan
- Power Options
- Change date, time, or number formats
- Network and Sharing Center
- Security and Maintenance

control|Panel

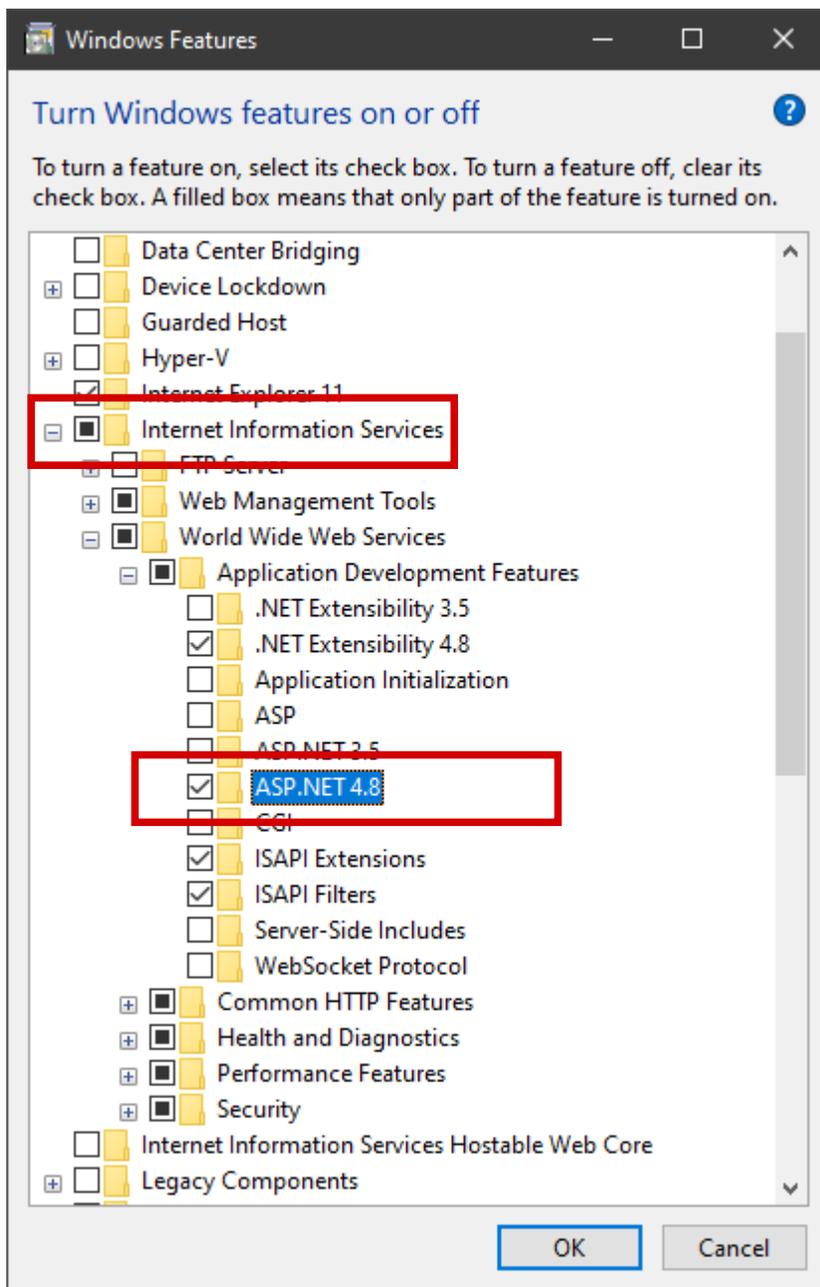
Step 2: click on Programs



Step 3: click on Turn Windows features on or off



Step 4: enable Internet Information Services and ASP.NET 4.8

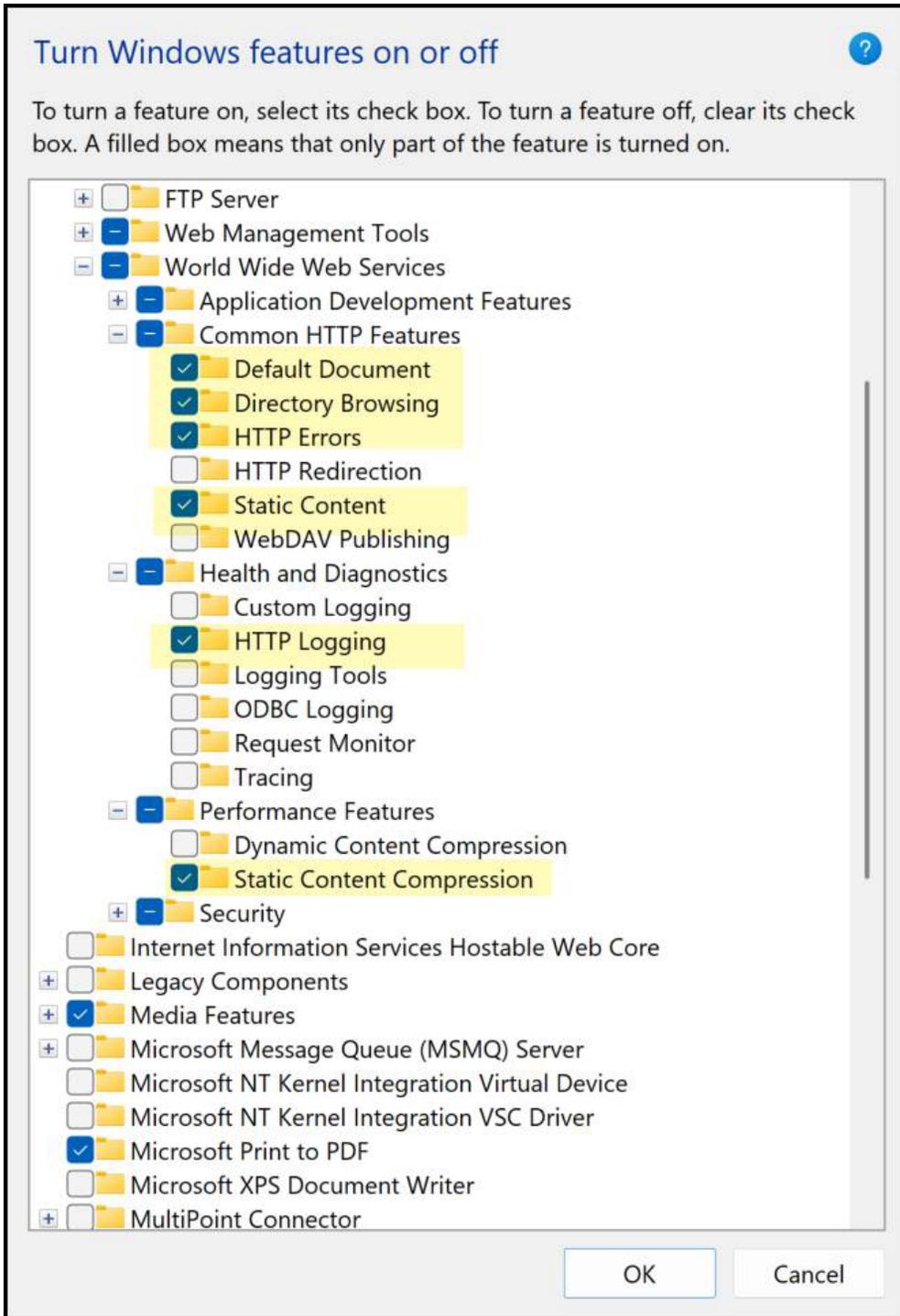


- click on checkbox left of **Internet Information Services** (this will select default options)
- click on plus sign left of that checkbox to expand IIS
- expand (click on plus) **World Wide Web Services**
- expand (click on plus) **Application Development Features**
- select (click on checkbox) **ASP.NET 4.8**

NOTE

Follow steps above if IIS isn't installed on desktop computer. If IIS is installed and enabled, please check if the ASP.NET 4.8 feature is enabled and enable it if necessary.

- The additional IIS features highlighted in yellow in the image below should also be enabled.

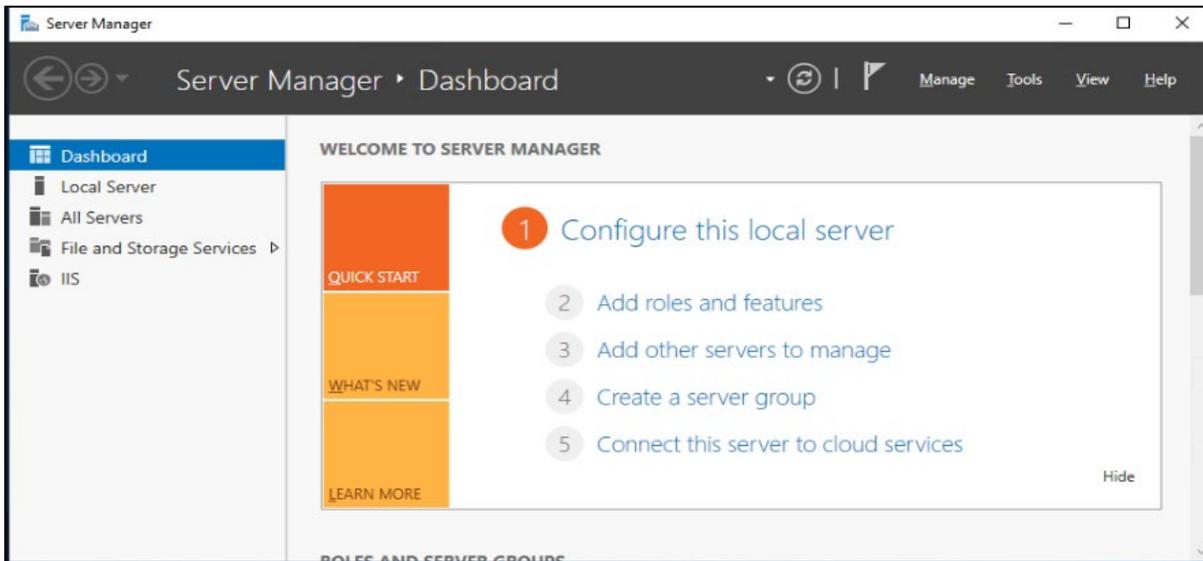


- Click **Ok** to finish and install any missing features

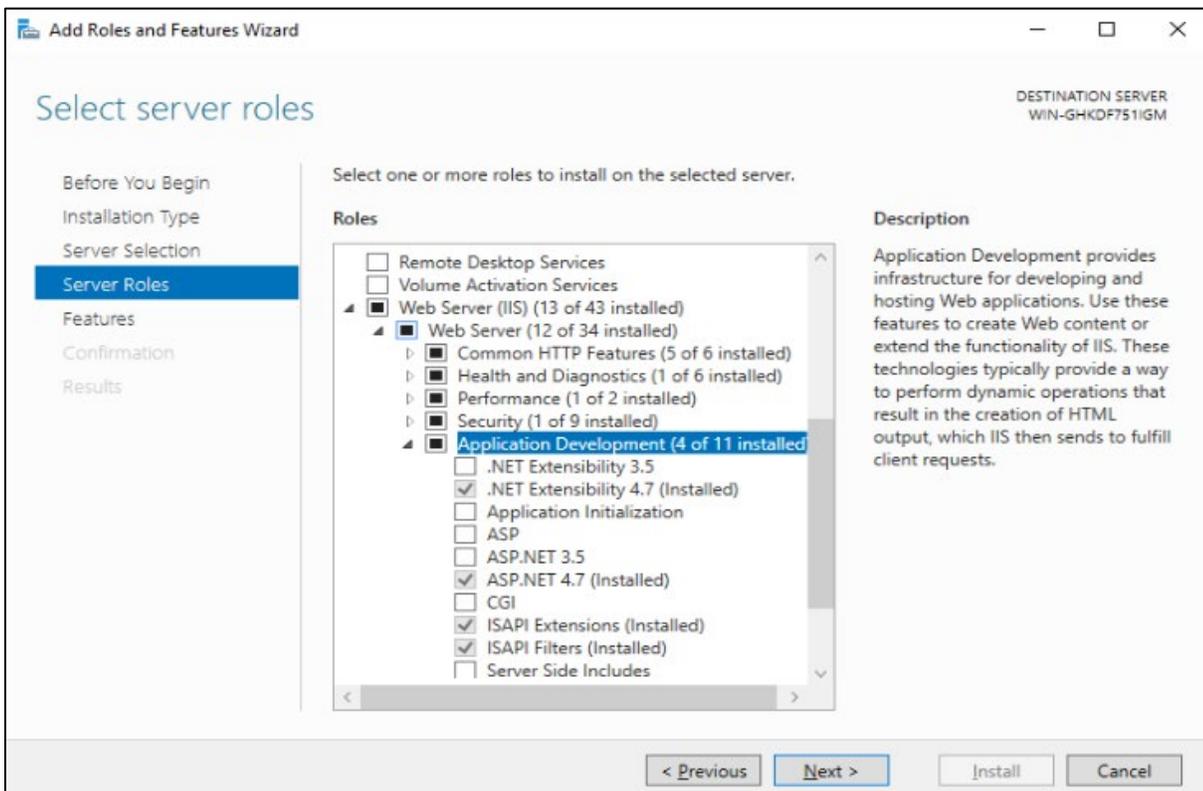
Server OS (Windows Server 2016)

Installing (enabling) IIS on Windows Server OS is quite similar to an installation on Windows desktop OS (see details above).

Installation is started from **Server Manager** by clicking on **Add roles and features**.



What remains to be done is enable **Web Server (IIS)** and also enable **ASP.NET 4.7** under **Application Development** (if IIS is already enabled, enable ASP.NET 4.7 if necessary).

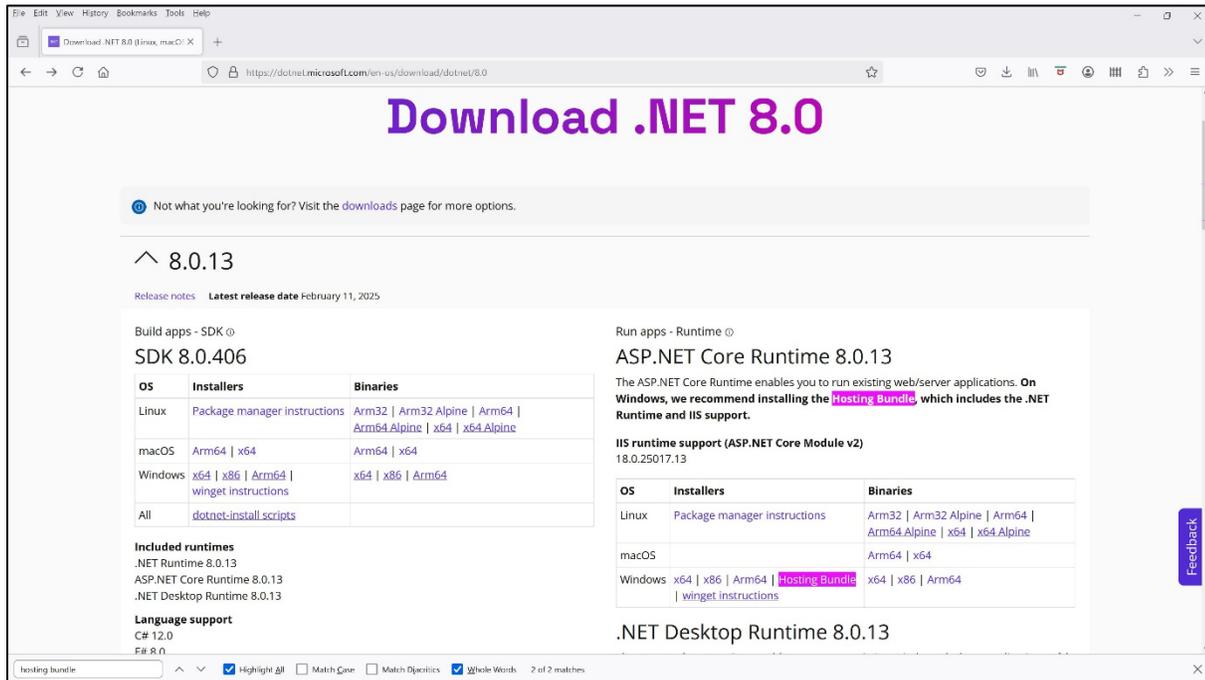


URL Rewrite module for IIS

Microsoft URL Rewrite Module 2.1 for IIS is free and official download is available from [Microsoft](#).

.NET Hosting Bundle Microsoft .NET 8.0.13 – (SLP Control Panel Only)

SLP stores data by default in a Microsoft SQLite database. Free official download is available from Microsoft via a link directly within [SLP Control Panel](#).



NOTE

Please make sure to only download and install the **Hosting Bundle**. It is in the Windows section. Please refer to the image above for its location.

SQL Server Compact (SLP Configuration Only)

SLP stores data by default in a Microsoft SQL Compact database. Free official download is available from [Microsoft](#).

NOTE

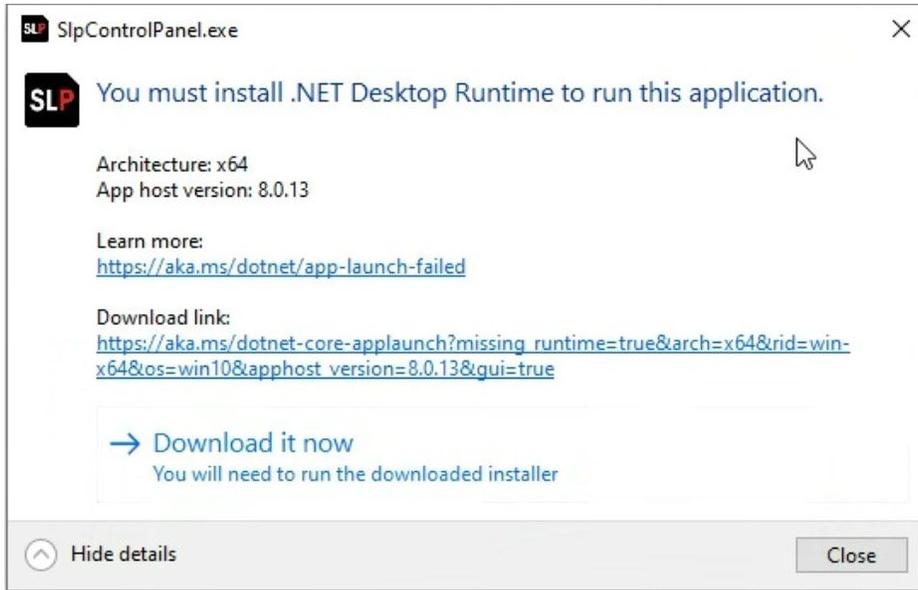
Only install if using the [SLP CONFIGURATION](#) app and the SmartLog Pro® SE. If using the SmartLog Pro® 2 device, please proceed with the [SLP CONTROL PANEL](#) app and SQLite.

SLP Control Panel Application

[SLP Control Panel](#) is the application used for SLP components installation, configuration and maintenance.

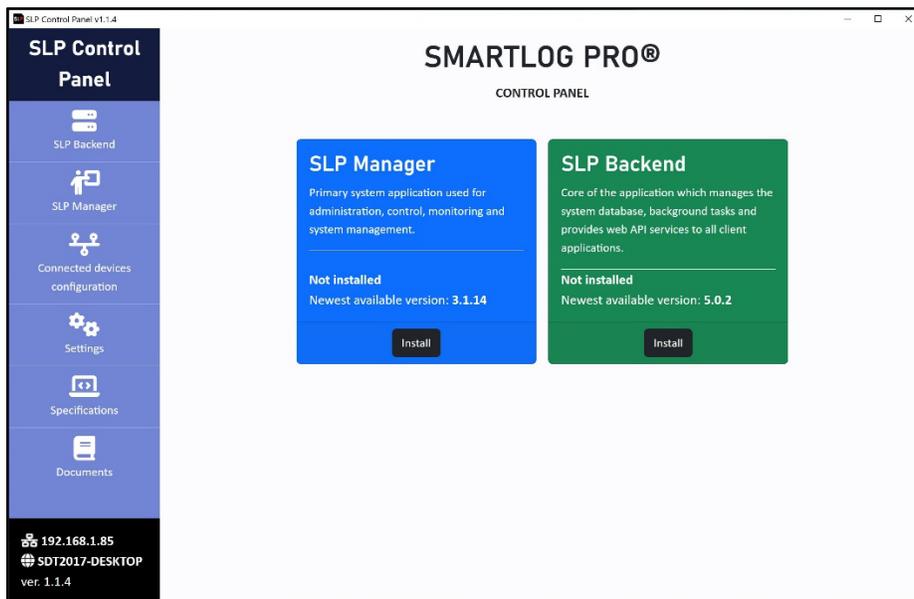
Contact [EMIT Customer Service](#) to be provided with a download link.

- download **SlpCPSetup.exe**
- run downloaded setup application
- install the **.NET Desktop Runtime** (if prompted) when running [SLP Control Panel](#) for the first time



The **SlpCPSetup.exe** will install the **SLP Control Panel** application on the local machine (in folder **C:\Program Files (x86)\SLP Control Panel** by default) and create a desktop icon.

This application is designed to greatly simplify installation and system maintenance (see details in next chapter).



SLP Configuration Application

NOTE

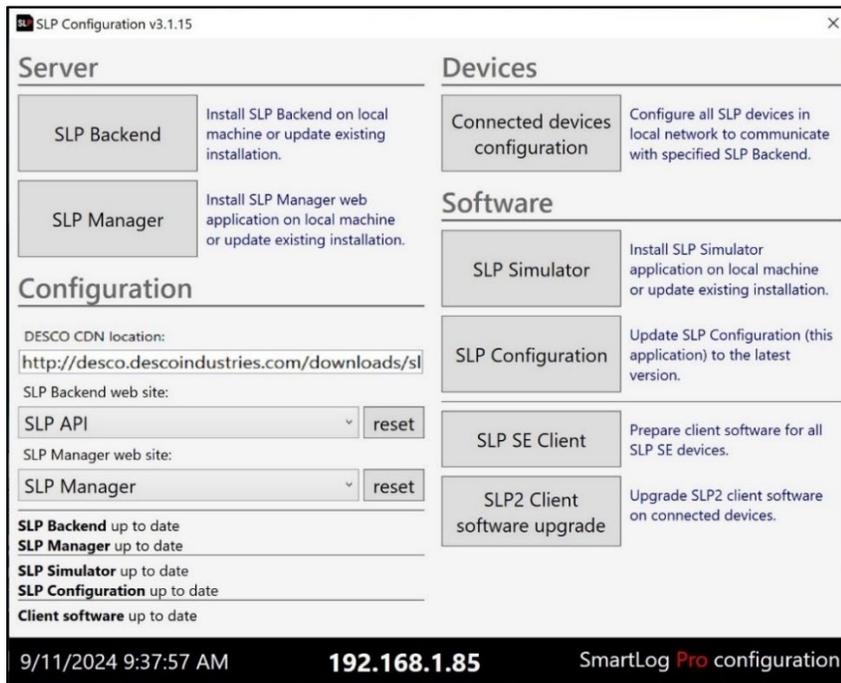
Only install if using the SmartLog Pro® SE device. If using the SmartLog Pro® 2 device, please proceed with the **SLP CONTROL PANEL** app and SQLite.

SLP Configuration is an older application used for system components installation, configuration and upgrade. Used if you are re-installing a system that had been installed with the **SLP Configuration** application. **Contact EMIT Customer Service** to be provided with a download link.

- download **ConfigSetup.msi**
- run downloaded setup application

Setup program will install the **SLP Configuration** application on local machine (in folder **C:\Desco\SlpConfig** by default) and create a desktop icon.

This application is designed to greatly simplify installation and system maintenance (see details in next chapter).



Installation Using SLP Control Panel

NOTE

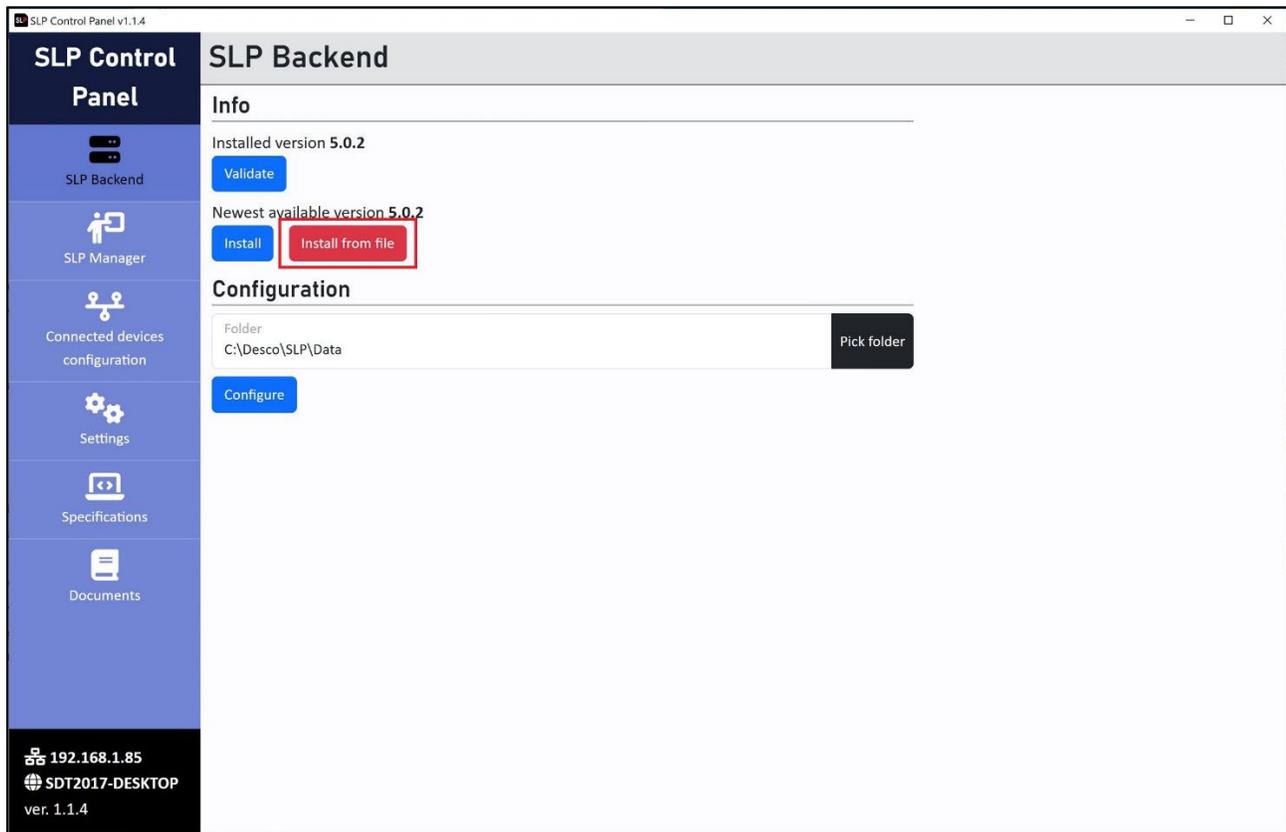
Only install if using the SmartLog Pro[®] 2 device. If using the SmartLog Pro[®] SE device, please proceed with the **SLP CONFIGURATION** and SQL Compact.

Once all prerequisites are fulfilled (see above), the **SLP Control Panel** application provides quick and easy method for server installation. It is designed for the most common scenario (intranet, server components on single computer) but it is also possible to use it in more advanced scenarios like having server components on separate machines, configuring web applications created using IIS, etc.

SLP Control Panel is also the right tool for upgrading to a new version, (re)configuration and reinstallation.

INFO!

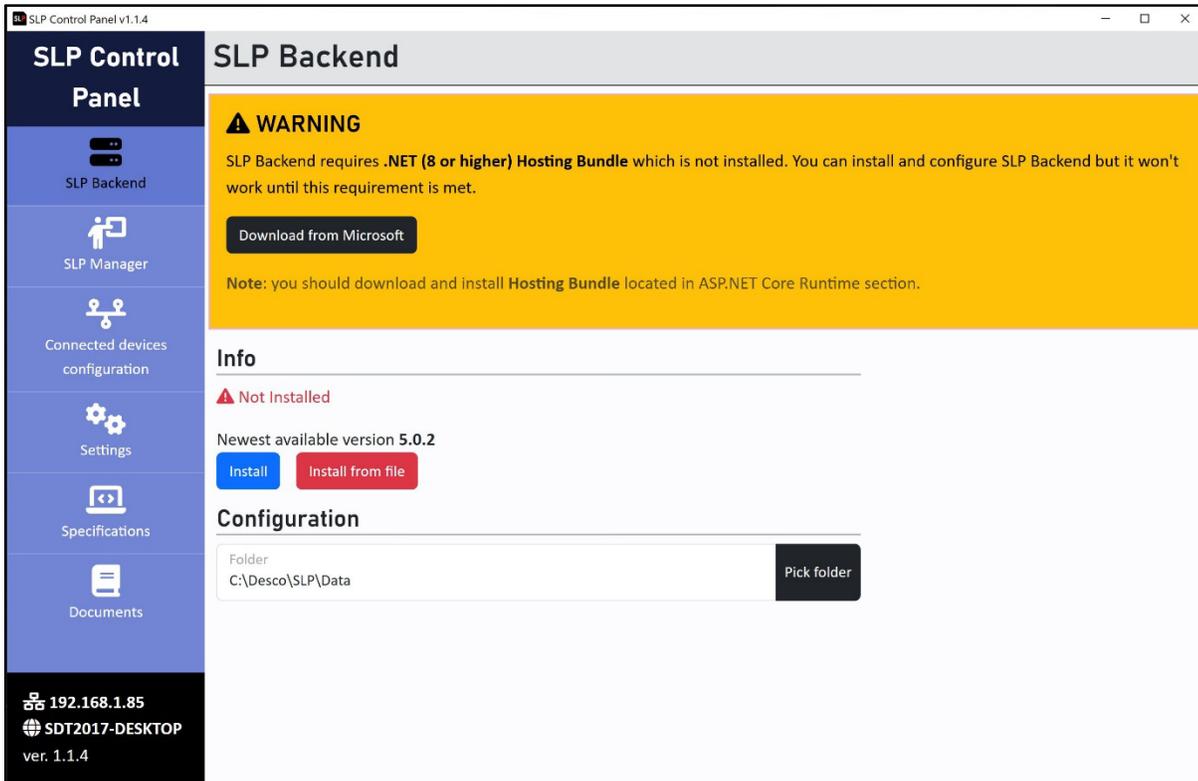
If during the installation (or when upgrading) you are unable to connect to the EMIT content delivery network (CDN) please **contact EMIT Customer Service** to be provided with download links to the files with the deploy/update packages for **SLP Backend** and **SLP Manager**. In each section for these you may direct the Application Installation Package location to a file instead of the CDN. A selection button is provided to locate the appropriate file in the location you saved it on the server (see image below). This will allow you to install or upgrade directly from the downloaded file instead of needing to connect to the CDN.



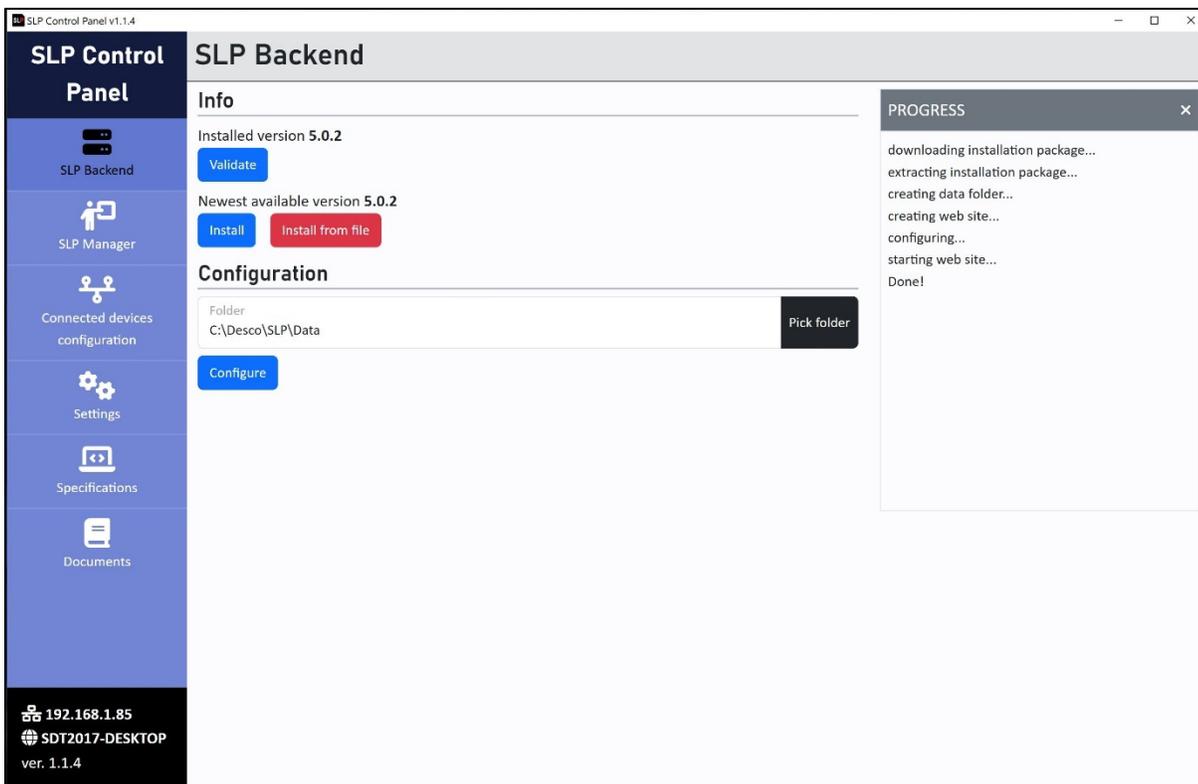
SLP Backend

To install SLP Backend follow these steps:

1. Start **SLP Control Panel**.
2. Click on the SLP Backend button.
3. Ensure the prerequisite is installed. Note in the image below that the **.Net Hosting Bundle** link is provided if the application detects you have not installed it. After installing it, return to the main screen and click on SLP Backend to refresh the screen. The yellow warning should be gone.
4. Pick folder for database (**C:\Desco\SLP\Data** is recommended and is the default specified in the Settings section. It may be changed, if necessary, prior to beginning the installation).
5. Click on the Install button.



SLP Control Panel will download installation package from the EMIT content delivery network (which is specified in the Settings section) and set up everything.



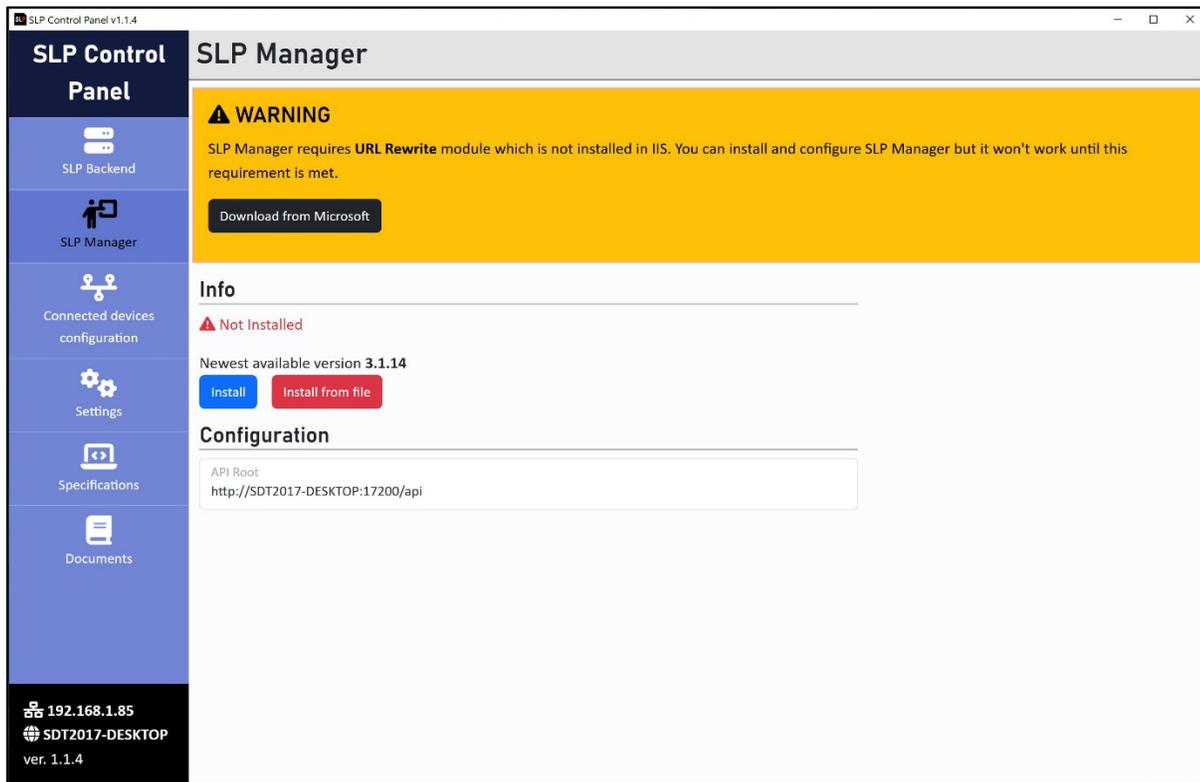
Once installation is done click on the **Validate** button to verify that everything is fine – browser should open a simple web page containing the text **SLP2 API, © DESCO 2024**.

SLP Manager

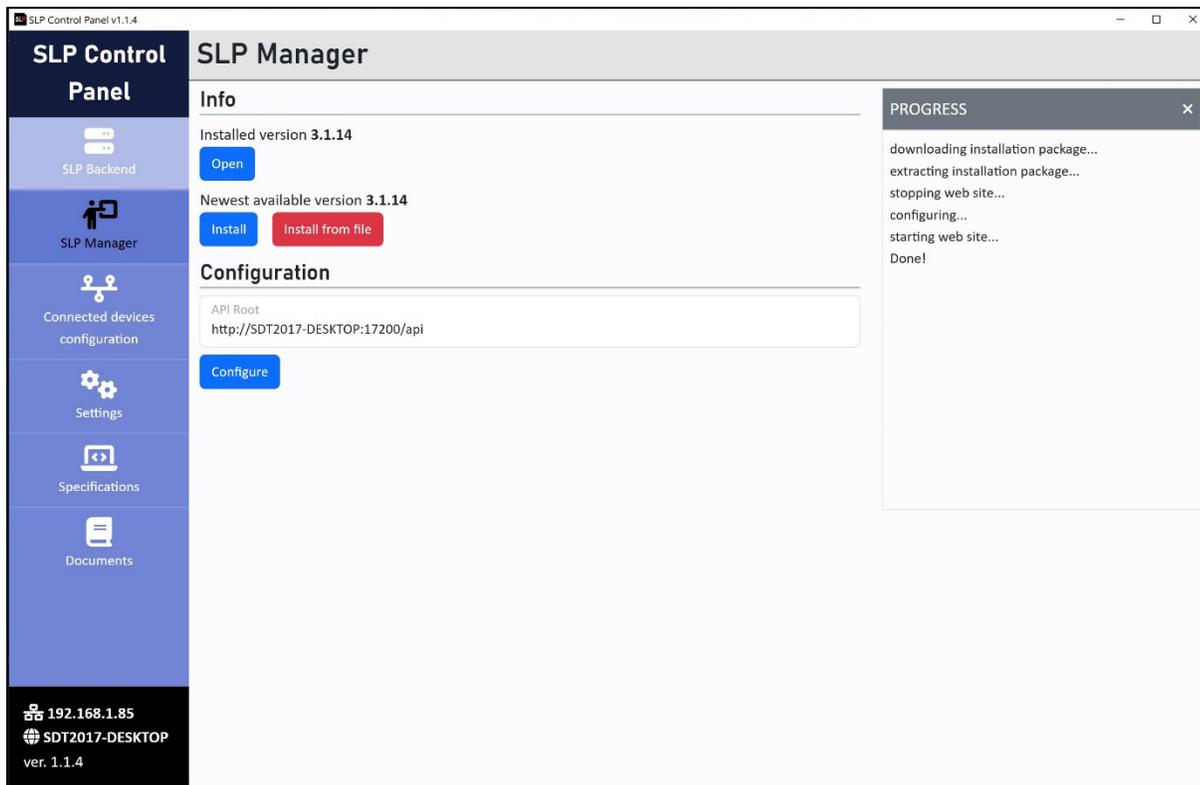
It is recommended to install SLP Backend before Manager, that way it won't be necessary to manually type the API Root location.*

To install SLP Manager follow these steps:

1. Start **SLP Control Panel**.
2. (Optional) install SLP Backend first (see comment above*).
3. Click on the SLP Manager button.
4. Ensure the prerequisite is installed. Note in the image below that the **URL Rewrite** link is provided if the application detects you have not installed it. After installing it, return to the main screen and click on SLP Manager to refresh the screen. The yellow warning should be gone.
5. Pick API Root (if not already set automatically).
6. Click on the Install button.



SLP Control Panel will download the installation package from the EMIT content delivery network (which is specified in the Settings section) and set up everything.



Once the installation is done click on the **Open** button to verify that everything is fine – browser should open the SLP Manager login page (see details about SLP Manager in the following chapter).

SLP system is built from loosely coupled components. In particular, backend and manager may be located on different computers and even on different domains. In some cases, it may even be that there are several backends (on different networks and domains) and single manager is used to “switch” between them. In those cases, API Root obviously won’t be default one and has to be typed in manually. If, for example, backend (API) is hosted on *slp.mydomain.com* then API Root should be set to <http://slp.mydomain.com/api> (/api suffix is important!).

NOTE

If you receive an error in the PROGRESS section of the screen during the installation of SLP Manager please click on the Install button again. That should correct the issue and complete the installation. If it does not, please contact **EMIT Customer Service** for assistance.

Installation Using SLP Configuration Application

NOTE

Only install if using the SmartLog Pro® SE device and SQL Compact. If using the SmartLog Pro® 2 device and SQLite, please proceed with the SLP Control Panel.

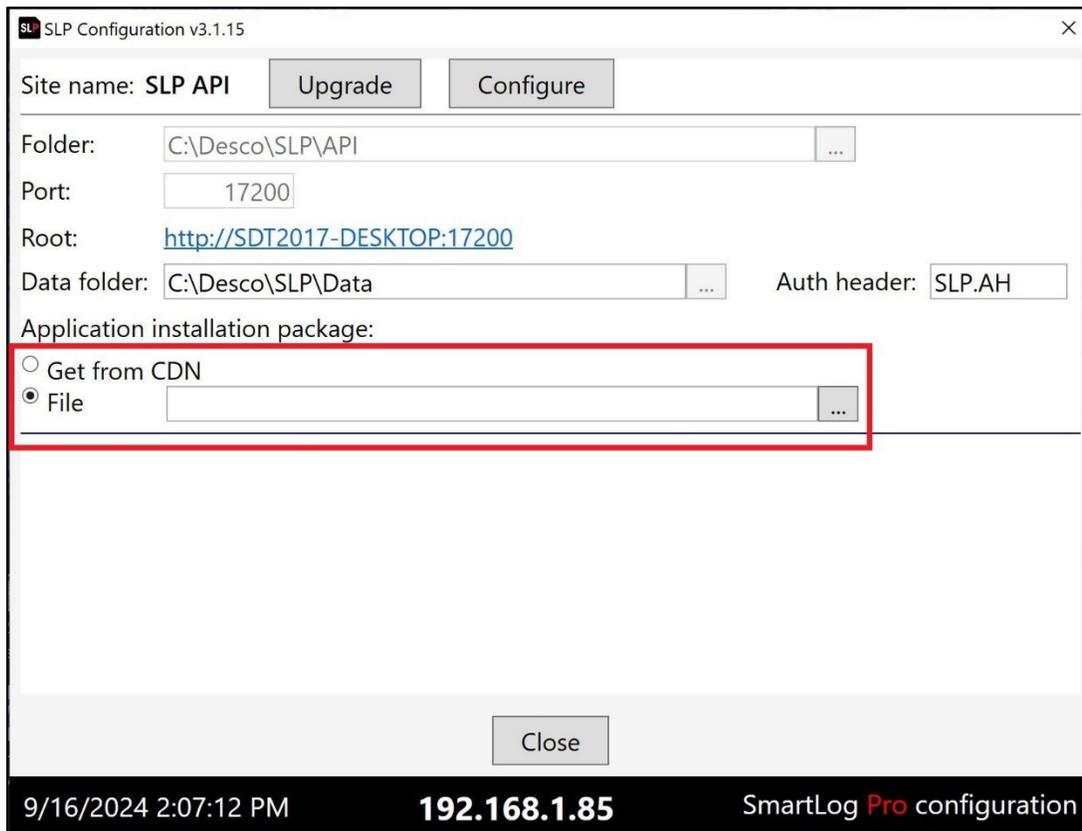
Once all prerequisites are fulfilled, the SLP Configuration application provides quick and easy method for server installation. It is designed for most common scenario (intranet, server components on single computer) but it is

also possible to use it in more advanced scenarios like having server components on separate machines, configuring web applications created using IIS, etc.

SLP Configuration is also the right tool for upgrading to a new version, (re)configuration and reinstallation.

INFO!

If during the installation (or when upgrading) you are unable to connect to the EMIT content delivery network (CDN) please contact **EMIT Customer Service** to be provided with download links to the files with the deploy/update packages for **SLP Backend** and **SLP Manager**. In each section for these you may direct the Application Installation Package location to a file instead of the CDN. A selection button is provided to locate the appropriate file in the location you saved it on the server (see image below). This will allow you to install or upgrade directly from the downloaded file instead of needing to connect to the CDN.



SLP Backend

To install SLP Backend follow these steps:

1. Ensure prerequisites.
2. Start SLP Configuration application.
3. Click on SLP Backend button.
4. Pick installation folder (**C:\Desco\SLP\API** is default).
5. Pick port (17200 is default, change only if that one isn't feasible).
6. Pick folder for database (**C:\Desco\SLP\Data** is recommended).
7. Click on the Install button.

SLP Configuration v3.1.15

Site name: **SLP API** Upgrade Configure

Folder: C:\Desco\SLP\API ...

Port: 17200

Root: <http://SDT2017-DESKTOP:17200>

Data folder: C:\Desco\SLP\Data ... Auth header: SLP.AH

Application installation package:

Get from CDN

File ...

Close

9/11/2024 9:38:44 AM 192.168.1.85 SmartLog Pro configuration

SLP Configuration will download installation package from the EMIT content delivery network (make sure that this was set correctly on previous screen – default should usually work fine) and set up everything.

Once installation is done click on the Root link to verify that everything is fine – browser should open web page containing text **SLP API, © 2020. DESCO**

SLP Manager

It is recommended to install SLP Backend before Manager, that way it won't be necessary to manually type the API Root location.*

To install SLP Manager follow these steps:

1. Ensure prerequisites.
2. Start SLP Configuration.
3. (Optional) install SLP Backend (see comment above*).
4. Click on SLP Manager button.
5. Pick installation folder (**C:\Desco\SLP\Admin** is default).
6. Pick port (17205 is default, change only if that one isn't feasible).
7. Pick API Root (if not set automatically to proper root).
8. Click on the Install button.

SLP Configuration v3.1.15

Site name: **SLP Manager** Upgrade Configure

Folder: C:\Desco\SLP\Admin ...

Port: 17205

Root: <http://SDT2017-DESKTOP:17205>

API Root: http://SDT2017-DESKTOP:17200/api Auth header: SLP.AH

Application installation package:

Get from CDN

File ...

Close

9/11/2024 9:39:17 AM 192.168.1.85 SmartLog Pro configuration

SLP Configuration will download installation package from the EMIT content delivery network (make sure that this was set correctly on previous screen – default should usually work fine) and set up everything.

Once installation is done click on Root link to verify that everything is fine – browser should show SLP Manager login page (see details about SLP Manager in the following chapter).

SLP system is built from loosely coupled components. In particular, backend and manager may be located on different computers and even on different domains. In some cases, it may even be that there are several backends (on different networks and domains) and single manager is used to “switch” between them. In those cases, API Root obviously won’t be default one and has to be typed in manually. If, for example, backend (API) is hosted on *slp.mydomain.com* then API Root should be set to <http://slp.mydomain.com/api> (/api suffix is important!).

Auth header settings is part of advanced configuration. Advanced configuration and upgrade scenarios will be explained in detail in appendix.

Client software

Software updates for SmartLog Pro® SE devices are also streamlined using standard mechanism provided by SLP Configuration. As with other software components, SLP Configuration will inform about new version availability (on EMIT content delivery network). Click on **Client** button will fetch latest version from the EMIT content delivery network (CDN) and make it available for all connected client devices via SLP Manager.

SLP Manager will inform all connected devices of update available but it won’t trigger update automatically. In order to update SmartLog Pro® software, admin must login and start update manually. This is by design to avoid

possible awkward situations of update starting in the middle of test, missing important updates, installing unwanted updates, etc.

Client software update is quick and simple using SLP Configuration:

- check for update availability on content delivery network (CDN)
- if new update exists fetch it to SLP Manager (using SLP Configuration)
- each connected SmartLog Pro® SE will indicate update availability
- if update is desired, start it from admin screen

NOTE

Please contact **EMIT Customer Service** for assistance if you need to upgrade the client software on a SmartLog Pro® 2.

Connected devices configuration

Final step in SLP installation is configuring SmartLog Pro® SE and SmartLog Pro® 2 devices to “talk” to the backend. Devices are “plug & play” by design and our applications will simplify the task of initial configuration of server location.

NOTE

This task should get repeated whenever new device is added to the system or whenever location of SLP backend changes for any reason.

SLP CONTROL PANEL and **SLP Configuration** are capable of broadcasting backend location to local network (using special UDP message). The SmartLog Pro® SE and SmartLog Pro® 2 devices must reside on the **same subnet** as the server hosting the data **for the initial configuration** of the server location. All connected SmartLog Pro® SE and SmartLog Pro® 2 devices that are active will automatically pick up that message, acknowledge and (re)configure their backend location.

NOTE

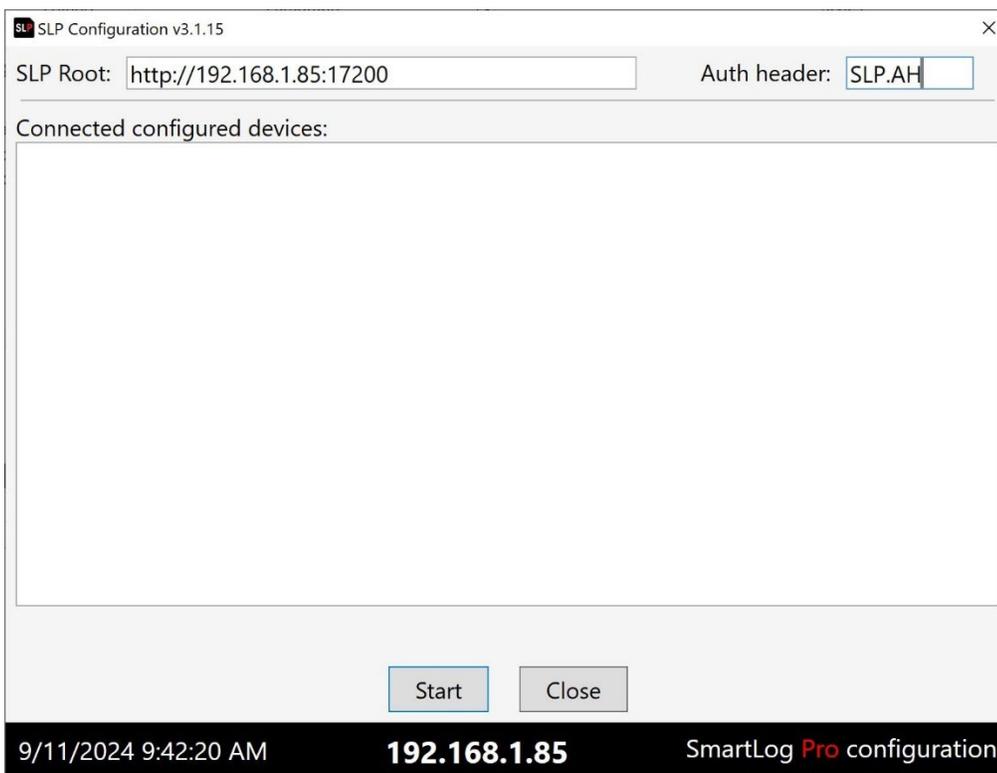
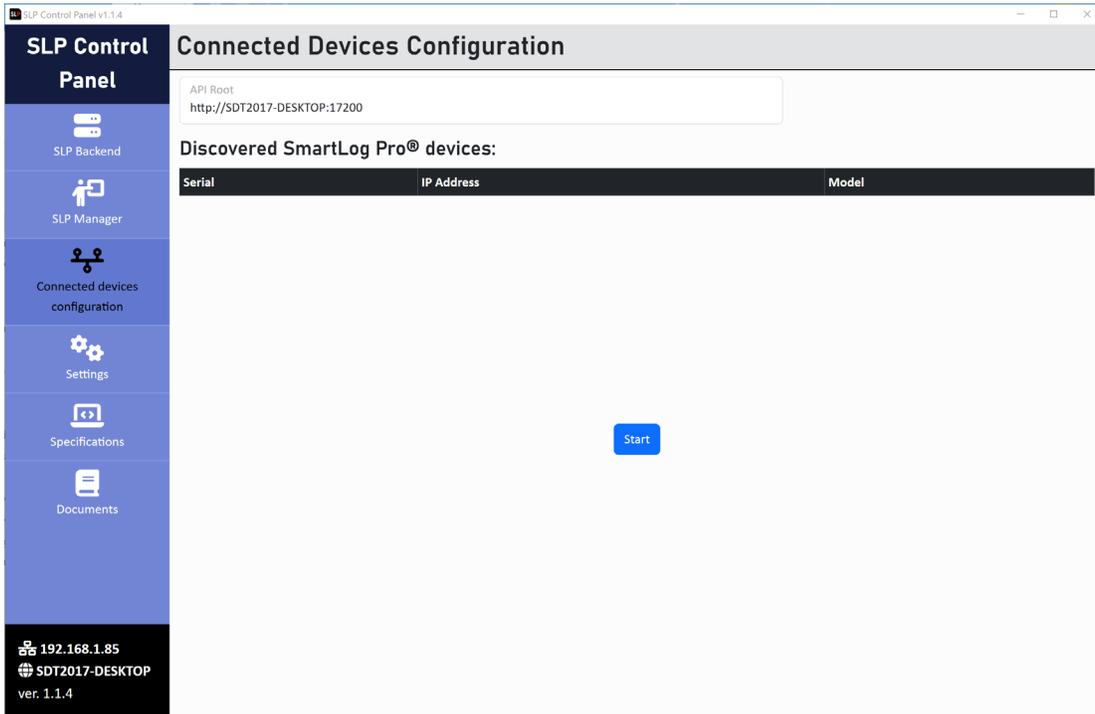
If for some reason the SmartLog Pro® SE and SmartLog Pro® 2 devices and the server hosting the data are not or cannot be on the same subnet, it is possible to enter the backend location (API Root) at the SmartLog Pro® devices manually. Access the Admin Menu by pressing **0 + ENTER**. Select **MISC** (or **GENERAL** on the SmartLog Pro® 2) and scroll down to the **API Root** setting. Select the keyboard icon to access the onscreen keypad (or simply touch the field on the SmartLog Pro® 2 for the keyboard to appear). Update the API root address with your server address and save it. You must be using client software version 2.5.23 or higher to utilize this option. A USB keyboard may be plugged into one of the dual USB ports on the back of the unit to make typing easier.

It is also possible to install just the SLP Control Panel or SLP Configuration applications on a secondary computer that is on the same subnet as the SmartLog Pro® SE and SmartLog Pro® 2 devices. They may then be used from that secondary computer for the configuration of the connected devices only. Please contact **EMIT Customer Service** for further details.

INFO!

If a SmartLog Pro® SE or SmartLog Pro® 2 isn't sending events to SLP Manager, the most probable cause is invalid or missing SLP Root information. Run **SLP CONTROL PANEL** or **SLP Configuration** to fix that!

This configuration step is started by clicking on Connected devices configuration button.



First ensure that the **SLP Root** is set correctly and then click Start button. All connected devices will soon appear in Connected configured devices list.

Note that the SLP Root is in fact the location of SLP Backend **but without /api suffix**.

Once devices are configured (which will happen quickly) there is no need to leave broadcast active – just Stop and exit. This configuration procedure is a quick one and should get invoked occasionally when new devices need configuration or when the system is reconfigured.

NOTE

Every connected SmartLog Pro® SE and SmartLog Pro® 2 will communicate with SLP and “reveal” its presence. If it doesn’t exist yet in the system, it will show (with serial number) in **Unknown Devices** on the SLP Manager dashboard. (See the **Dashboard** section below for more details).

Recommended way of adding devices to the system is to use this “plug and play” feature:

- connect SmartLog Pro® SE or SmartLog Pro® 2 to the network and configure it to communicate with SLP Control Panel or SLP Configuration
- use Unknown Devices on the Dashboard to attach it to the system
- give it descriptive name

Name isn’t strictly required but it will show on all reports, alarms and previews.

It isn’t necessary to set all other attributes right away (defaults represent the most commonly used settings) – this can be left for later fine-tuning step.

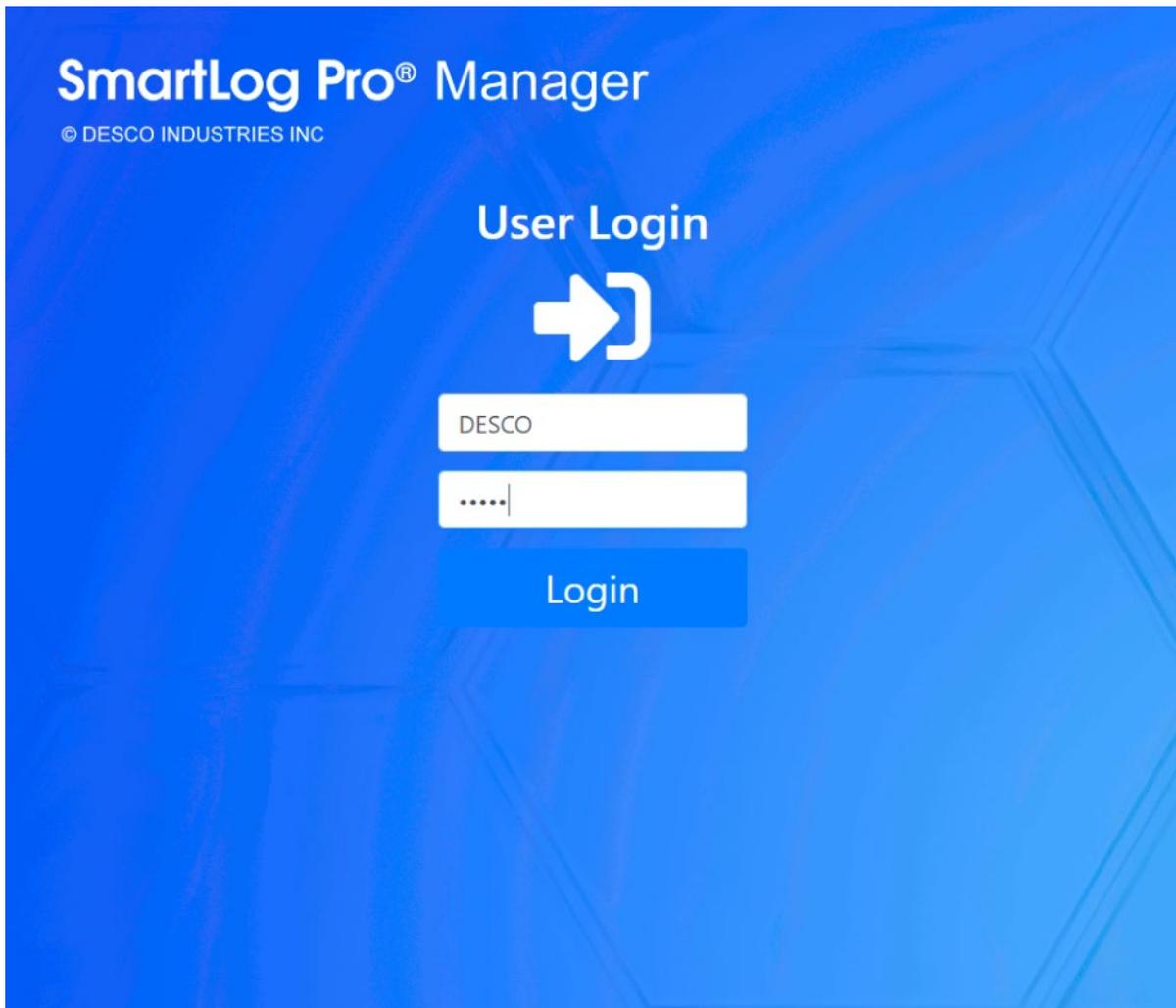
SLP Manager

SLP Manager is a web portal that is a central point for the SLP system. It is designed to provide:

- Management (administration) of system entities like operators, SmartLogs, departments, shifts, etc.
- Constant monitoring of system state including versatile query, reporting and alert features
- Controlling operational parameters of SmartLog Pro® SE and SmartLog Pro® 2 devices as well as operators
- Exporting data in various formats (Excel, html, text, e-mail)
- Importing operators from external data sources
- Controlling overall SLP operation

SLP Manager is implemented with special attention to simplicity, ease of use and performance. User interface is standardized as much as possible across various screens and forms.

When started, SLP Manager requires user authentication:



With every installation comes predefined user with username **Descos** (letter casing is not important) and password **descos** (letter casing important!). This user has role **Owner** and therefore full administrative system rights.

WARNING!

Keeping this predefined user is considered serious security risk!

It is advised to create new user with full rights immediately and delete predefined user:

1. open **Users** (under **Administration**)
2. click on **New User**
3. define new user – set role to Admin or Owner (important!)
4. logout predefined DESCO admin (on the sidebar menu)
5. login with created user
6. if everything is fine, go to Users again and delete DESCO Admin (red delete button)

If SLP Manager is installed and configured properly to connect to SLP Backend api layer, it will open system dashboard

The screenshot displays the SmartLog Pro Manager dashboard. On the left is a navigation sidebar with options: Administration, Reports, Alerts, Tools, Language, and a Logout button for DESCO Admin. The main content area is divided into several widgets:

- Recent ESD tests:** A table with columns: Time, Operator, SmartLog, Test Type, Result. It shows several test entries with results like 'Pass' or 'Fail'.
- Unknown Locations:** A section with a search bar containing '192.168.1.9' and an 'Attach' button.
- Failed ESD tests:** A table with a filter for 'Within last 12 hours' and a 'Page size' of 20. It shows failed test entries.
- SmartLogs with high FAIL rate:** A table with a filter for 'Within last 12 hours' and a 'Page size' of 20. It shows SmartLog entries with high failure rates.
- Operator last known ESD status:** A table with a search bar and a 'Page size' of 10. It shows the last known test status for various operators.

Navigation menu is located on the left sidebar which also contains logout button, licensing information and Activate button. Sidebar title (SmartLog Pro Manager) is a link to “home” page – system dashboard.

Main part of system dashboard is composed of “widgets”. Available widgets are:

- Unknown Locations
- Unknown SmartLogs
- Recent ESD tests
- Operator last known ESD status
- Failed ESD tests
- SmartLogs with high FAIL rate
- Operators with high FAIL rate

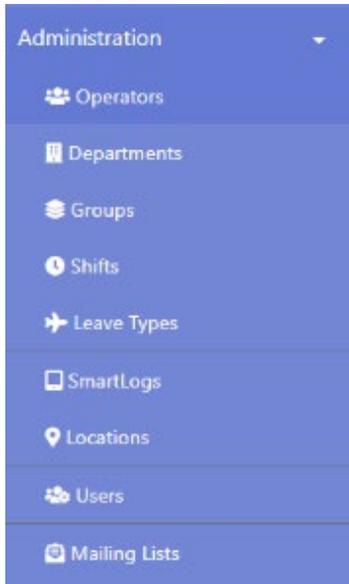
It is possible to hide or configure any widget, detailed explanation follows in section dedicated to system options.

System dashboard is “live”, it refreshes automatically to always reflect current system status.

SLP Manager is a “responsive” web application. It will fit and rearrange on smaller screens (tablets, mobile).

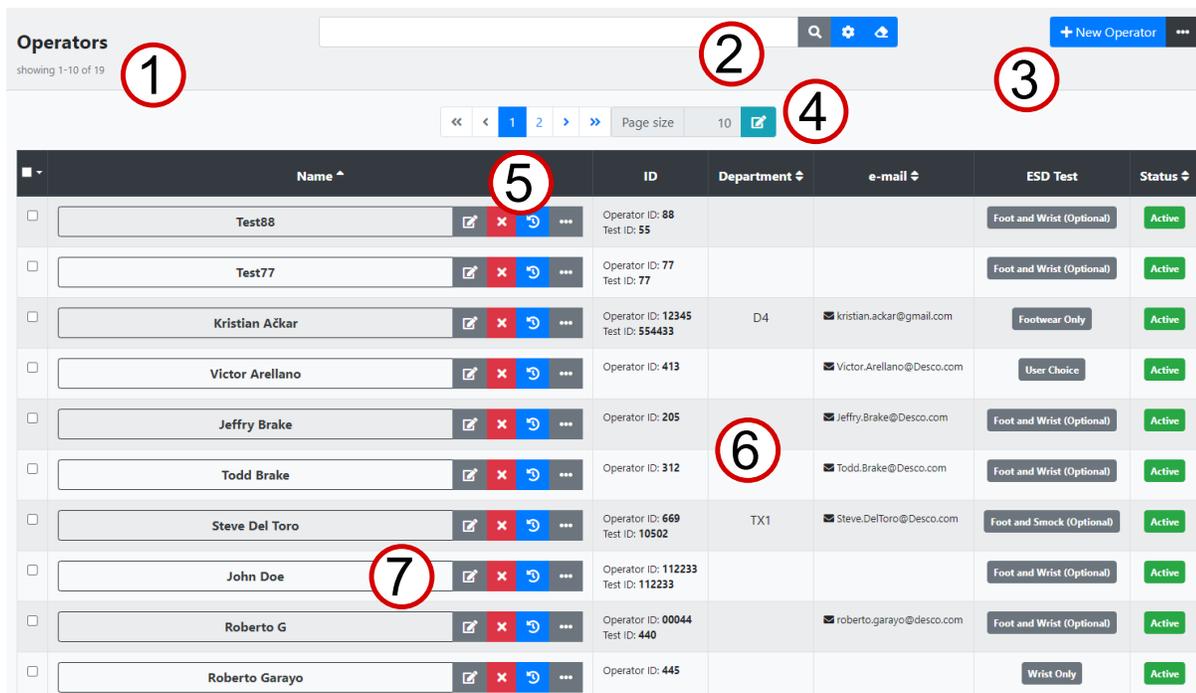
Common functionality

SLP Manager uses common master/detail paradigm. Management of all system entities is located under **Administration** menu:



Clicking on, for example, **Operators**, opens standard “master” (list) view.

List view

A screenshot of the "Operators" list view in SLP Manager. The interface includes a title "Operators" with a count of 19 (circled 1), a search bar (circled 2), and a "+ New Operator" button (circled 3). Below the title is a pagination bar with page numbers 1 and 2 (circled 4) and a "Page size" of 10. The main table has columns: Name (circled 5), ID, Department, e-mail, ESD Test, and Status. The table contains 10 rows of operator data. Each row has a checkbox, an edit icon, a delete icon (circled 6), and a refresh icon. The "John Doe" row has a circled 7 next to its name. The "Status" column for all rows shows "Active".

Every list view in SLP Manager looks similar and has similar standard parts and associated functionality:

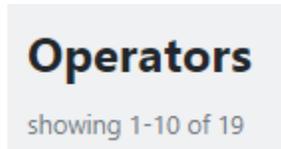
- Title with overall entity count
- Filtering
- Available operations (including creating new entities)
- Pagination
- List header with sorting and select all

- List of filtered entities
- First column with entity name and a set of available operations

Operators list example above contains all possible components. Some other entity (or report) lists may not contain parts and commands that are not relevant. List view will always adapt seamlessly.

List title

List title contains the title that describes associated list and also information about overall (filtered) entity count as well as information about entities shown.



Filtering

Every list can be filtered in various ways:



1. term entry field
2. search button
3. advanced filter button
4. clear filter button

The most basic, yet quite powerful options is filtering by term. It can be done simply by entering any text in term entry field and pressing Enter (or clicking on search button). List will immediately filter to show only entities that “contain” entered term.

For example, entering **Jo** for search term in our operator example would match names like John, Jonny, Bill Lojor, ... - anything containing “jo” (letter casing is irrelevant).

NOTE

SLP term matching is more extensive. For each entity a set of “term” attributes is defined. In our operator example search above would also match operator with e-mail address tester@mojo.work.

Term search is also sensitive to operator Ids, test Ids, card numbers, etc – use it to quickly find/check operator with ID 12345.

For more advanced scenarios there is advanced filter option. It provides additional meaningful filtering options. Advanced filter automatically adapts for related entity – for operators it is:

Advanced Filter

show only operators that satisfy:

Status	Department
<input type="text"/>	<input type="text"/>
Active <input checked="" type="checkbox"/> Inactive <input checked="" type="checkbox"/>	D2 <input checked="" type="checkbox"/>
Group	Shift
<input type="text"/>	<input type="text"/>

Clicking on Apply button (or on search button in filter bar) will filter list accordingly.

Advanced (extended) filter button in filter bar toggles visibility of advanced filter form.

Finally, clear filter button clears any filtering criteria. It is equivalent to “show all” command.

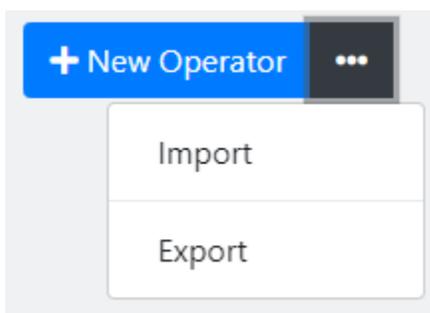
NOTE

Advanced filter and clear filter buttons indicate whether any filtering is applied. They will turn blue if filtering (including term filter) is active and grey otherwise.

Some list views by default already contain predefined filtering. For example, operator list is filtered to show only active and inactive operators.

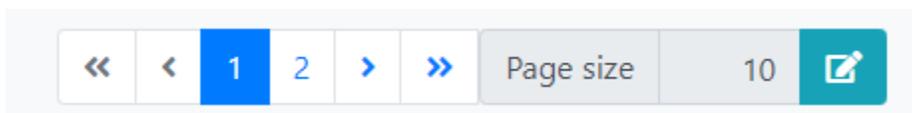
List operations (commands)

Every list view is starting point for related entity management (create, modify, delete) and therefore contains New command. Some lists may contain additional commands – for operators it is:



Pagination

It is rarely useful to have large lists on screen, SLP Manager uses standardized pagination

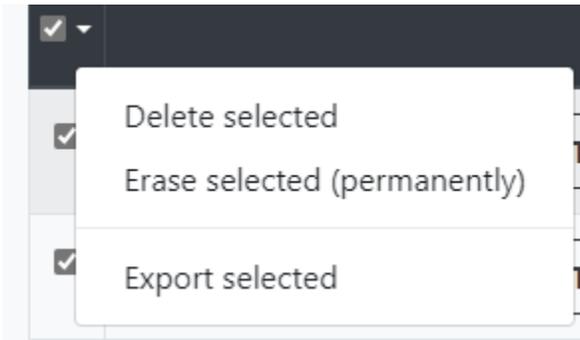


consisting of pager and control for adjusting page size. Pagination is visible only if necessary, i.e. if there are more entities than those shown.

List header

List header contains titles and some of them are clickable as indicated by mouse cursor and arrows to their immediate right. Clickable titles are used to sort the list – clicking on title toggles between ascending and descending sort on related attribute.

In the leftmost column there is a check box with drop-down menu. For operators it looks like



Checkbox is used to select/deselect all and drop-down menu contains commands relevant for current selection.

Entity list

List body simply contains a list of (filtered) entities with predefined columns shown.

In the leftmost column there is a checkbox used for selecting/deselecting individual item.

On smaller screens list with many columns may not fit into viewport. If that happens then list becomes scrollable (left/right).

Name (command) column

First column always contains entity name (or description) and a set of relevant commands



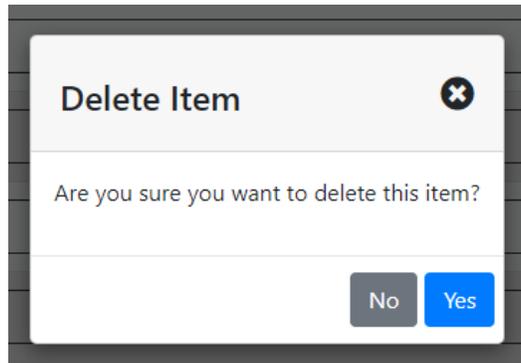
Standard operations (commands) on every entity are edit (modify), delete and preview.

Preview is not available always (only for complex entities and reports). In our operator example, name is in fact a button. When clicked, operator preview will open in popup form.

For some list views (reports in particular), whole row becomes preview trigger. Availability of preview is noticeable by cursor change in that case.

In operator list there is separate edit button next to operator name. For simpler entities (Departments for example) this button won't show! Since simple entities don't have preview option, clicking on name will open edit (details) form instead.

Delete button is red button with cross. Deleting will always ask for confirmation



NOTE

SLP uses concept of soft vs. hard delete. Hard delete removes entity from the system and it isn't reversible (can't be undone). On the other hand, soft delete only marks entity as deleted but keeps it in the system. Soft delete is equivalent to setting entity status to Deleted.

Soft delete is simply called "delete" and hard delete is called "erase" in SLP. Complex entities have Status attribute and have both soft and hard delete available. Simple entities do not have status and have only hard delete available (for them delete=erase).

Hard delete may not succeed. If removing entity would disturb consistency of data (entity is referenced somewhere) then erase fails with informative message.

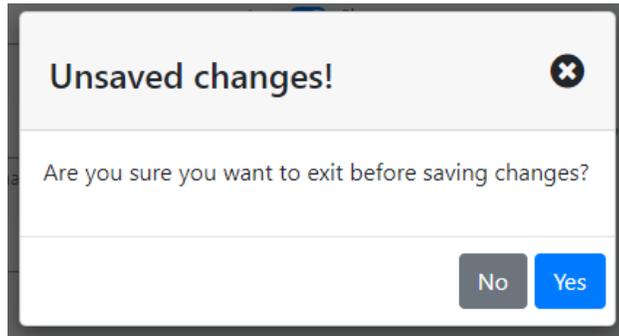
Some entities have additional commands. In case of operator those are: (change) history, erase and leaves.

Details view

Entities are created and edited using details view (form). They are always invoked using either Create New or Edit command on list view (see previous section for details). In some cases, they are very simple and sometimes show quickly as popups. In some cases, they can be complex and contain multiple tabs (for example, SmartLog form)

A screenshot of the SmartLog details view form. At the top left is the "SmartLog" header and a back arrow. At the top right is a "Save" button. The form contains several input fields: "Name" with value "BBB", "Serial" with value "158506994141", and "Status" with a dropdown menu set to "Inactive". Below these are tabs for "General", "Access", "Restrictions", and "ESD Test". Under "General", there is a "Language" dropdown set to "English" and a "Show name" toggle switch that is turned on. There is also a "Temperature in *F" toggle switch that is turned off. Below that are fields for "Date/Time display format" and "Buzzer volume" (set to "1"). A "Calibration due" field with a calendar icon is also present. A section titled "Timeouts (seconds):" contains four dropdown menus with values "60", "10", "3", and "1", labeled "Admin", "ESD Test", "Show ESD result", and "Relay duration" respectively. At the bottom, there is an "ESD Test" dropdown menu and a label "Operation Mode".

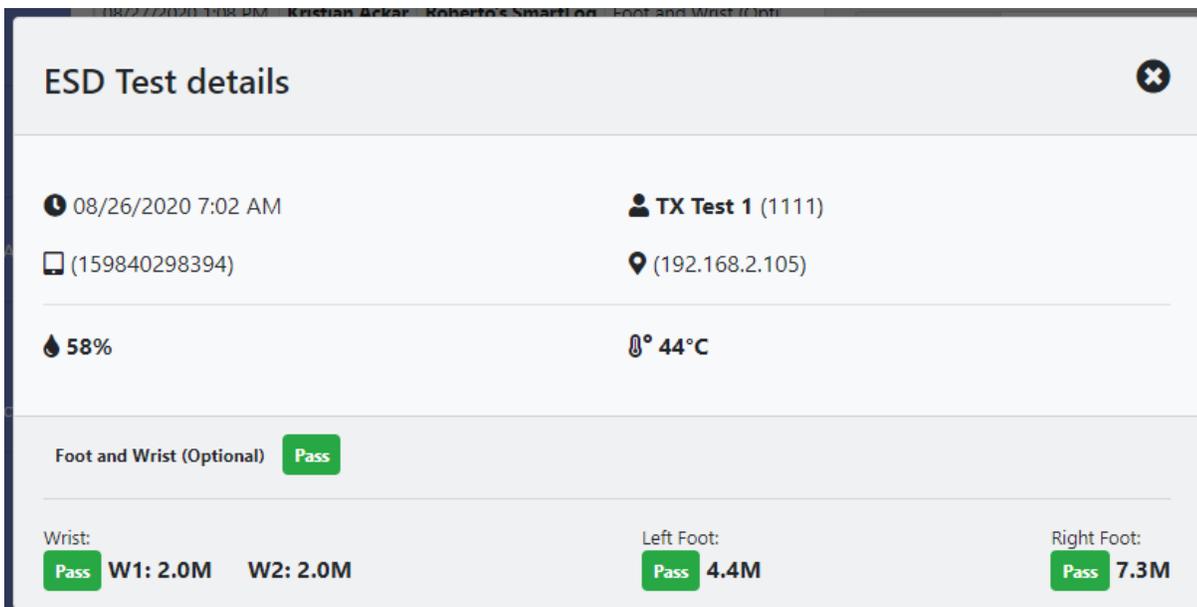
Details view always contains two commands: back (grey left arrow) and Save (blue button). Back command will return to previous location (list view) but will prompt if changes were made:



Save will save changes made (if there were any) and return to previous location (list view).

Preview

Preview is another standard SLP Manager feature. It is available for complex entities, edit history and for various reports, for example:



Preview is always shown in popup window that can be closed using close button (grey button with cross) or simply by pressing **Escape** key.

Edit history

Operators and SmartLogs are most important entities in the system. For both SLP implements full modification history (blue button in list view, see above). Clicking on it will bring up

Operator edit history ✕		
Time	Performed by	Action
05/19/2020 7:38 PM	DESCO Admin	Update
04/28/2020 9:53 PM	DESCO Admin	Update
04/28/2020 9:52 PM	DESCO Admin	Update

while clicking on each item (row) will open preview – snapshot of entity state at that point of time.

Note that if there were many edits this popup list may become quite long.

Export

Export is standard feature of all reports (including alerts history) in SLP Manager. It is also available on operators list view to export filtered (sub)set of operators.

Primary purpose for export is to establish standard data interchange mechanism with external systems and applications and, therefore, supports standard formats:

- Excel
- tab and comma delimited text
- PDF

Export capabilities are extended (for reports) also with:

- PDF preview (useful for print)
- e-mail

All report and alert pages contain in the top right corner



And clicking on Export brings up a form for customization

Export [Close]

SmartLog Summary

File name

Column names in first row

Excel 2007+ [Dropdown]

Format

Columns:

<input checked="" type="checkbox"/>	Column
<input checked="" type="checkbox"/>	SmartLog
<input checked="" type="checkbox"/>	# Tests
<input checked="" type="checkbox"/>	Pass
<input checked="" type="checkbox"/>	Fail
<input checked="" type="checkbox"/>	No Test

Cancel [Export]

that enables columns (attributes), output format and file name selection.

Clicking Export will create report in SLP backend and download created file.

NOTE

Export always contains current filtered selection. Use standard filtering and sorting to produce desired output.

PDF option (button) is similar to selecting PDF for data format in Export but it opens resulting PDF document in a new browser tab. This can be considered as enhanced print preview option.

Finally, e-mail button brings up recipient selection form:

Recipients [Close]

Send e-mail to:

Current User

Mailing Lists

[Empty list area]

Additional e-mails

Cancel [Send]

Additional e-mails can contain multiple e-mail addresses separated by commas, semicolons, or spaces.

Common controls

SLP manager uses standard UI controls – buttons, input fields, dropdown lists, checkboxes, switches, etc. but also some specialized:

Autocomplete input

Autocomplete looks and works like standard input field but reacts to input by displaying “suggestions” – a list of system entities that contain entered text:



Pressing **Enter** key will “complete” input with highlighted suggestion.

It is also possible to use down/up arrows to change highlighted choice or simply click on desired one.

NOTE

It is also possible to list “all” available choices without typing in the hint. This is done by pressing **Down Arrow** while input field is empty. Autocomplete will then display available entities.

Autocomplete suggestion list is always limited to **first 12 matches**.

Suggestions are not lexically sorted; they are shown in random order.

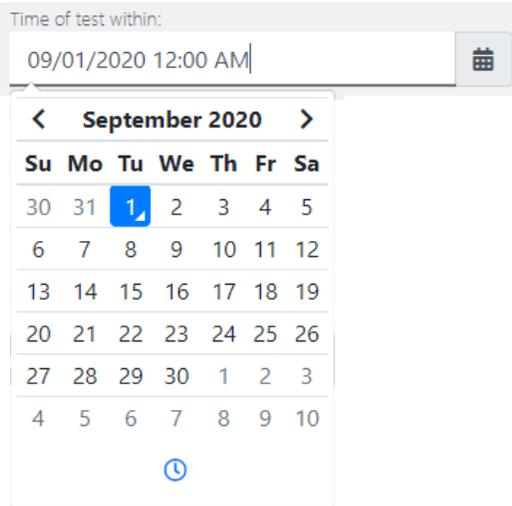
Autocomplete is a time-saver reducing required typing and shows full potential in cases when user knows (at least partially) what she is looking for. This control is used through SLP Manager for selection (from potentially large list).

Autocomplete input has “multi” variant and can also pick multiple choices. In this case it is combined with selection list control:



Date/time input

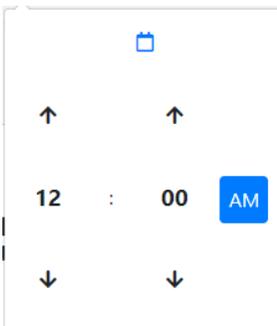
In every place where date or time input is required SLP Manager uses special input control:



It consists of normal input field (where date/time can be typed in) extended with a button that brings up calendar (and/or clock) control.

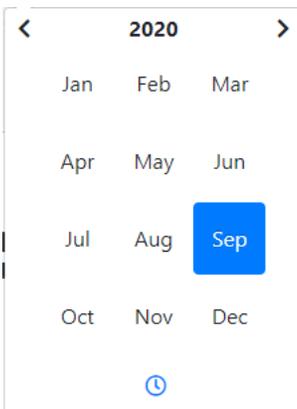
If expected input is time only, control will show only time picker, if it is date only then time picker won't be available. In general case it looks like the one above.

Clicking on clock icon at the bottom will switch to time input



and calendar icon at the top can be used to switch back.

In date mode click on a month in the title bar will switch to year view (month picker)



and a click on year (in title bar) will switch to decade view (year picker).

Administration

Users

User is an entity that has access to SLP Manager

The screenshot shows a user management form with the following fields and controls:

- Name:** Input field containing "DESCO Admin".
- e-mail:** Input field containing "admin@desco.com".
- Role:** Dropdown menu with "Owner" selected.
- Status:** Dropdown menu with "Active" selected.
- Username:** Input field containing "Desco".
- Change Password:** A green button next to the Username field.
- Managed Departments:** A list containing "D1" and "D2", each with a red "x" icon to its right.
- + Add New:** A blue button at the bottom left of the Managed Departments section.

Username/Password define credentials for SLP Manager login.

Role is important because it defines access rights:

- **Owner** has full access to all available functionality
- **Admin** has full access to all available functionality (except creating Admin or Owner Users)
- **Manager** has limited access (full access to managed department(s))
- **User** has only “read” access – can view but can’t modify

Setting Status to anything but Active will effectively disable user.

Even though name is not strictly required it is convenient to have it for display purposes.

e-mail is optional and used in SLP Manager mailing export (see Export section in Common functionality chapter).

Department managers will receive e-mails for every alert related to any operator from department(s) they manage.

Required entry: Username, Password.

Operators

Most important SLP entities are SmartLog Pro® SE / SmartLog Pro® 2 devices and the operators who use them

Operator

← Save

First	Test
First Name	Last Name
<input type="text"/>	Active
e-mail	Status
654321	654321
Operator ID	Test ID
Contractor	
Department	Shift
<input type="text"/>	<input type="text"/>
Group 1	Group 2
Wrist Only	03/01/2022
Required test	ID Expiration
12	<input type="checkbox"/> Only tests periodically
Hours until retest required	

Operator ID is permanent operator identifier. It must be unique within the system and “identifies” operator to a SmartLog (either by keying in the number, scanning card or using any other available method).

Test ID is optional secondary identifier that also may be enabled to access SmartLog. SmartLog will always check entered id against all available operator IDs first. If there was no match, it will also check against all available test IDs (if this access option is enabled).

NOTE

Even though this is not strictly required it may be a sound policy to use different “schemes” if Test IDs are used. For example, having Operator IDs as numeric sequences of 6 digits and Test IDs of 4 digits would eliminate any ambiguity and possibility for mix-up.

Even though name (first name, second name) is not strictly required it is convenient to have it for display purposes. Name shows on SmartLog display when operator is “recognized” and also on all reports, alerts and history previews. Leaving name blank will make all of them awkward.

Required test defines default test that operator should perform on SmartLog. This may be (and often is) overridden by SmartLog configuration.

Operator tests usually remain valid for some time (during which an operator isn’t required to perform a test again). The hours until retest required field defines this time period. After that time, their testing status becomes expired. Marking an operator as only tests periodically removes all recurring test constraints. The status for these operators will be periodic after the retest period expires.

If an operator has an ID Expiration date set (if it is not set, this means it does not expire) then access will be

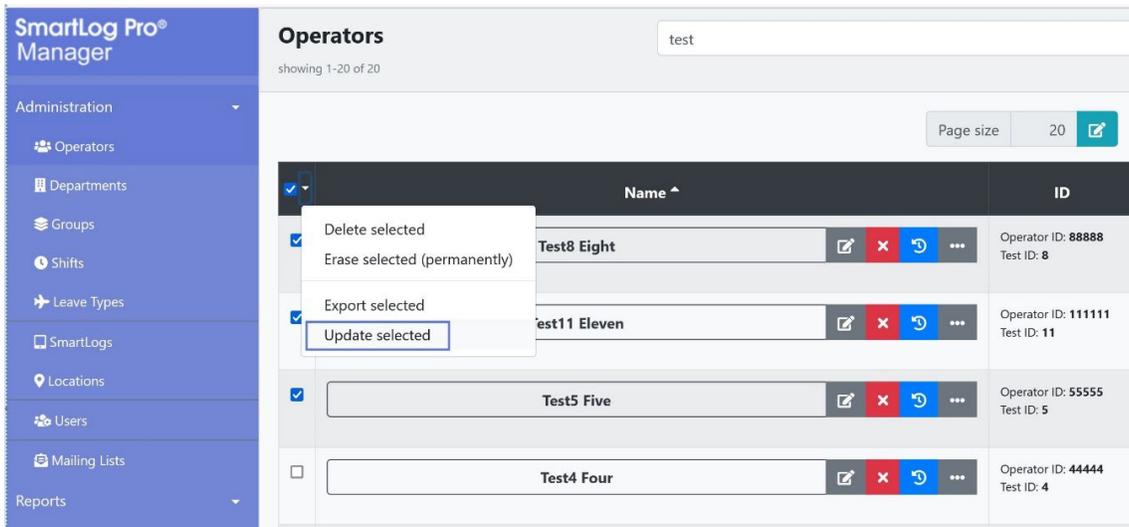
denied at the SmartLog Pro® SE or SmartLog Pro® 2 if the operator attempts to use the tester on or after that date.

That operator will get an Access Denied message if they enter or scan an ID until the ID Expiration date has been updated or deleted.

Required entry: Operator ID.

There is additional functionality available for operators – keeping track of leave. It is accessible from operator list view (button next to history). It uses simple, standard, self-explanatory user interface and is intended for purely informational purpose.

INFO!
Operators are synchronized with all connected SmartLog Pro® SE and SmartLog Pro® 2 devices in real time. Any change to operator attributes will get propagated in matter of seconds.



It is possible to update the information for multiple operators in the Operator's screen by selecting them and using Update Selected (as shown in the image above).

Update selected operators

Required test	Status
3	
Department	Shift
Group 1	Group 2
Hours until retest required	<input type="checkbox"/> Only tests periodically

Cancel Update

A window is provided with the fields available for multi-user update. Once the values are entered, use the Update button to implement the changes to all selected operators.

Departments, Groups and Shifts

Simple entities used to organize operators. It is also possible to restrict access to a SmartLog Pro® SE or SmartLog Pro® 2 device based on operator membership in any of them. User interface for managing those entities is very simple and intuitive:

Department

Name

Department Managers

DESCO Admin ✕

[+ Add New](#)

Cancel Save

Group

Name

Note 1
 Note 2

Cancel Save

Shift

Name

06:00 📅

Start

14:00 📅

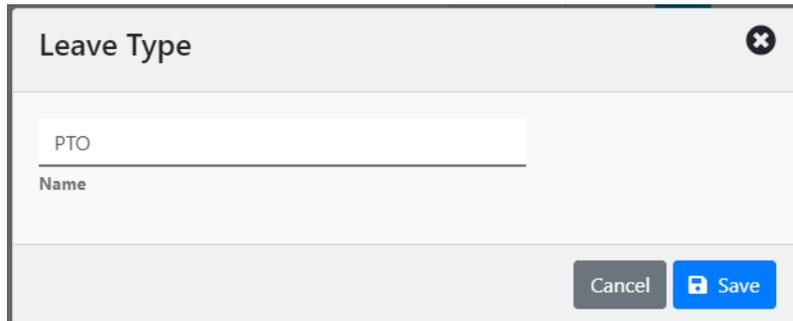
End

Days: Su Mo Tu We Th Fr Sa

Cancel Save

Leave Types

Leave type is just a simple entity with name used in the operator leaves calendar.



Leave Type

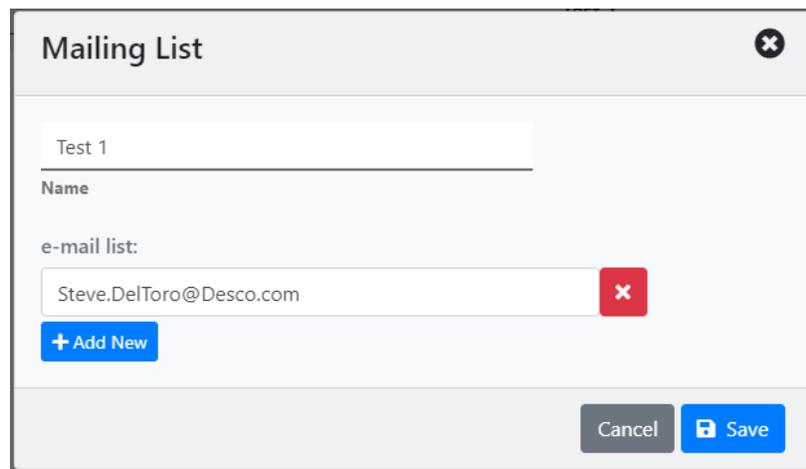
PTO

Name

Cancel Save

Mailing Lists

Mailing list is a standard and convenient way to define a group of e-mail recipients (as explained before).



Mailing List

Test 1

Name

e-mail list:

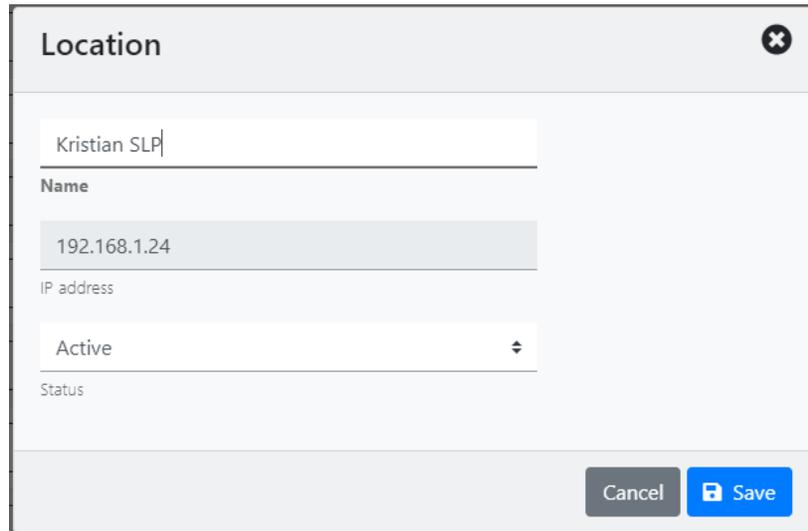
Steve.DelToro@Desco.com

+ Add New

Cancel Save

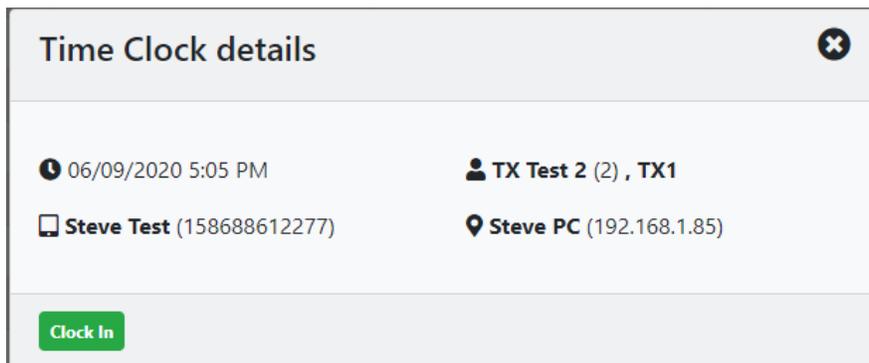
Locations

Locations in SLP represent physical network locations (IP addresses) and it is possible to name them:



The screenshot shows a 'Location' configuration window. It includes a text input field containing 'Kristian SLP', a label 'Name', an IP address input field containing '192.168.1.24', a label 'IP address', a dropdown menu with 'Active' selected, and a label 'Status'. At the bottom right, there are 'Cancel' and 'Save' buttons.

SLP records network location for all events (ESD tests, Access, Time clock). Naming locations results in nicer, more readable, reports and previews – for example:



The screenshot shows a 'Time Clock details' window. It displays event details: '06/09/2020 5:05 PM', 'TX Test 2 (2), TX1', 'Steve Test (158688612277)', and 'Steve PC (192.168.1.85)'. A 'Clock In' button is at the bottom left.

NOTE

Location Status (active/inactive) is controlled by SLP. Whenever a “live” SmartLog Pro® SE or SmartLog Pro® 2 is connected its location becomes Active and Inactive otherwise.

Whenever there is active SmartLog Pro® SE or SmartLog Pro® 2 device on network location “unknown” to the system (not named as Location), that IP address will show on system dashboard under **Unknown Locations** (see chapter about Dashboard below for description of this feature).

SmartLogs

SLP Manager provides complete control over SmartLog configuration.

INFO!

SmartLog attributes are synchronized with corresponding connected SmartLog Pro® SE and SmartLog Pro® 2 devices in real time. This is the main mechanism for device management in SLP.

Smart log details form is very extensive and covers every possible configuration scenario:

Serial number is permanent unique device identifier. Each SmartLog Pro[®] SE and SmartLog Pro[®] 2 already has a serial number which has to be used in SLP Manager.

NOTE

Every connected SmartLog Pro[®] SE and SmartLog Pro[®] 2 will communicate with SLP and “reveal” its presence. If it doesn’t exist yet in the system, it will show (with serial number) in **Unknown Devices** on the SLP Manager dashboard. (See the **Dashboard** section below for more details).

Recommended way of adding devices to the system is to use this “plug and play” feature:

- connect SmartLog Pro[®] SE or SmartLog Pro[®] 2 to the network and configure it to communicate with SLPCfg
- use Unknown Devices on the Dashboard to attach it to the system
- give it descriptive name

Name isn’t strictly required but it will show on all reports, alarms and previews.

It isn’t necessary to set all other attributes right away (defaults are most commonly used settings) – this can be left for later fine-tuning step.

Status (Active/Inactive) is controlled by SLP automatically. Whenever device is connected it will be Active and it is Inactive otherwise.

General tab contains attributes that determine visual aspects of client software on SmartLog Pro[®] SE and SmartLog Pro[®] 2 device and also define operation mode (ESD test, Access control or Time clock).

Calibration Due is just a convenient information field so you may document when the SmartLog needs to be calibrated. It does not impact the software or tester behavior.

Access tab defines available access methods and login options:

General Access **Restrictions** ESD Test

Input enabled:

Keypad
 Barcode Reader
 Proximity Reader

Admin keypad code Admin barcode

Login allowed:

Operator ID
 Test ID
 Unknown ID
 Pre-test

Unknown ID display

And on Restrictions tab it is possible to define various restrictions that limit access to device: department, group or shift membership and restricting access only to certain time periods.

General Access **Restrictions** ESD Test

Allow access only for members of:

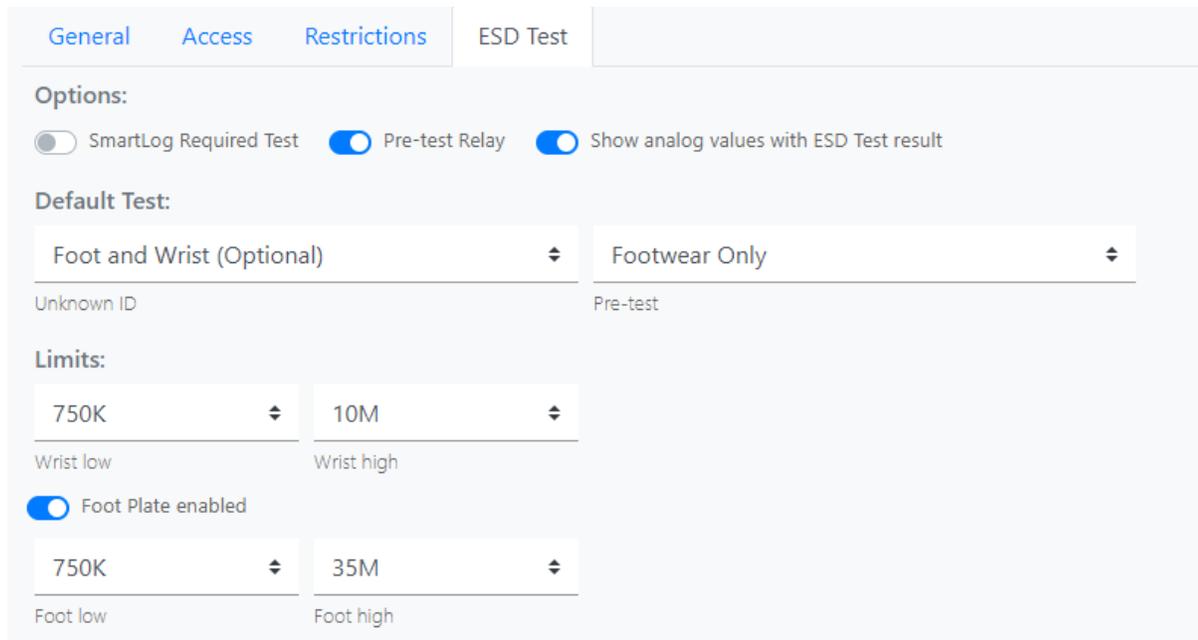
Department
 Shifts

Group 1
 Group 2

Hours of operation:

Begin End

Finally, ESD Test tab defines ESD test parameters



Options:

SmartLog Required Test Pre-test Relay Show analog values with ESD Test result

Default Test:

Foot and Wrist (Optional) Footwear Only

Unknown ID Pre-test

Limits:

750K 10M

Wrist low Wrist high

Foot Plate enabled

750K 35M

Foot low Foot high

- limits for PASS/FAIL
- default test for device
- default test override with operator's default test

Cloning configuration

It is quite common that several SmartLog Pro® SE and SmartLog Pro® 2 devices within an organization share the same (or almost same) configuration. As mentioned before, when new device is created in SLP Manager it will get sensible factory defaults for configuration. But, when desired configuration differs from this default for large number of devices, it may be tedious to configure them one by one if many of those configurations are the same.

To help streamline this process SLP Manager implements “configuration cloning”. This is in fact simple and common copy/paste mechanism applied to configurations.

SmartLogs details page contains two extra buttons (copy and paste configuration) – see screenshot. Copy and paste operations work as expected:

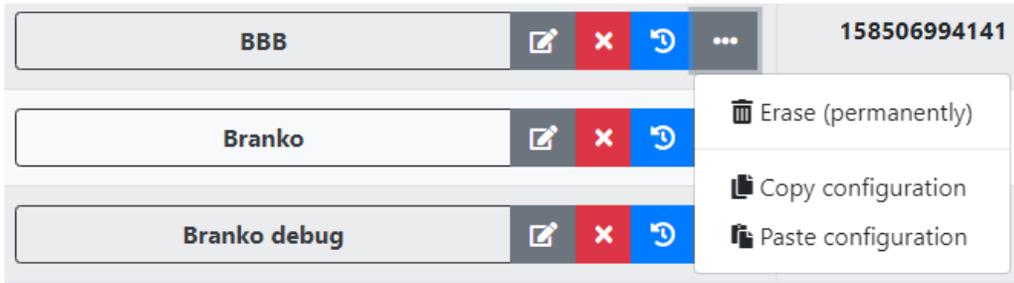
- copy copies configuration into memory (browser) buffer
- paste applies stored configuration to current device

Note that paste button won't be available unless stored (copied) configuration exists.

INFO!

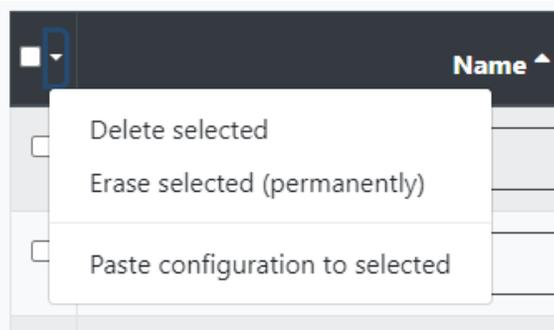
Copy/paste doesn't use standard clipboard. Copied configuration is stored in browser local storage instead. This implicates that stored configuration will be available even after browser is closed and opened again sometimes.

Cloning mechanics is even more useful on SmartLogs list view. Every item has extra button with additional commands:



which can be utilized to copy configuration (and to paste stored configuration to that device).

Finally, on selected commands dropdown in title bar:



there is a command that “clones” stored configuration to all selected devices. This feature makes setting same configuration to many devices really quick and simple – configure first device, copy configuration, select others and paste stored configuration.

Dashboard

System Dashboard (SLP Manager “home” screen) is always accessible by clicking on title in the top of the left sidebar. It is composed of widgets that give information about the system and is refreshed in real time:

The dashboard contains several widgets:

- Recent ESD tests:** A table showing test results for various operators and departments.

Time	Operator	SmartLog	Department	Result
09/04/2020 10:43 AM	(ffe) Foot and Wrist	Roberto's SmartLog		No test
09/04/2020 10:40 AM	(112) Footwear Only	Roberto's SmartLog		No test
09/04/2020 10:38 AM	(fd) Smock Only	Roberto's SmartLog		No test
09/03/2020 1:28 AM	Victor Arellano Wrist Only	Victor		Pass
09/03/2020 1:28 AM	Victor Arellano Wrist Only	Victor		Fail
09/03/2020 1:28 AM	Victor Arellano Wrist Only	Victor		Pass
09/01/2020 12:11 PM	(2486) Foot and Wrist (Optional)	Roberto's SmartLog		No test
08/27/2020 1:28 PM	Kristian Aćkar Footwear Only	Roberto's SmartLog	D4	Pass
08/27/2020 1:27 PM	Kristian Aćkar Foot and Wrist	Roberto's SmartLog	D4	Fail
08/27/2020 1:09 PM	Kristian Aćkar Foot and Wrist (Optional)	Roberto's SmartLog	D4	Fail
- Unknown SmartLogs:** A widget showing SmartLog IDs (e.g., 159942652872) with an Attach button.
- Unknown Locations:** A widget showing location IDs (e.g., 192.168.1.8) with an Attach button.
- Failed ESD tests:** A table showing failed test results.

Time	Operator	SmartLog	Test Type	Result
09/03/2020 1:28 AM	Victor Arellano	Victor	Wrist Only	Fail
- SmartLogs with high FAIL rate:** A widget showing SmartLog IDs with a high failure rate (e.g., 12 hours).
- Operator last known ESD status:** A table showing the last known ESD status for various operators.

Time	Operator	SmartLog	Test Type	Result
09/03/2020 1:28 AM	Victor Arellano	Victor	Wrist Only	Pass
08/27/2020 1:28 PM	Kristian Aćkar	Roberto's SmartLog	Footwear Only	Pass
08/26/2020 7:02 AM	TX Test 1	(159840298394)	Foot and Wrist (Optional)	Pass
08/26/2020 3:26 AM	TX Test 2	(159840298394)	Footwear Only	Pass
- Operators with high FAIL rate:** A widget showing operators with a high failure rate (e.g., 12 hours).

Most of the widgets are reports giving insight into important aspects of system operation. It is possible to configure their parameters (or even remove them from the dashboard) using Options (see section below). It is also possible to adjust some settings directly using provided controls, but those changes are not persisted (unlike ones set in Options).

NOTE

The Operator last known ESD status widget displays various results which are summarized below. You may view the detailed status entry results by clicking on each line.

Expired – The operator’s test expired based on the “hours until retest required” setting in the Operator screen. A retest is required.

Fail – The operator’s last test was failed.

Leave - The operator is currently scheduled on leave. Leave may be scheduled in the Operator screen.

Never Tested - The operator is currently entered in the program, but they have never performed a test.

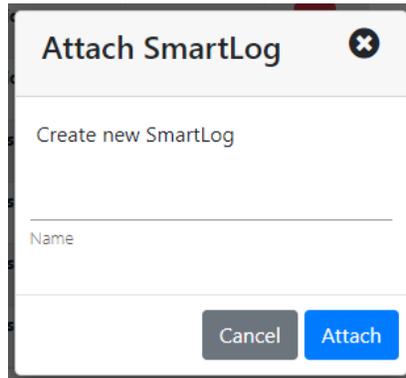
No Test - The operator received a “No Test” result at the tester due to not completing a test in time.

Pass – The operator’s last test was passed.

Periodic - The operator’s test expired based on the “hours until retest required” setting in the Operator screen; however, they are designated as a person that only tests periodically.

Two widgets have a different yet very important role – Unknown Locations and Unknown SmartLogs. It was already described before in sections describing Location and SmartLog entity respectively how they are identified to the system. Whenever new (not stored yet) to the system location or device appears it will show on

the dashboard. Recommended way to add them is clicking on **Attach** button. This will bring up simple popup form like:



The image shows a modal window titled "Attach SmartLog" with a close button in the top right corner. Inside the modal, there is a text input field labeled "Name" and a "Create new SmartLog" label above it. At the bottom of the modal, there are two buttons: "Cancel" and "Attach".

where only name is required. For locations it completes creation process and it only names SmartLog – it will get default configuration which could/should be fine-tuned as described before in related section.

Reports

Reports are full-featured list views that only show specific information. They include standard filtering, sorting and pagination as well as export functionality (see common features description in related chapter).

Two reports are summaries and provide statistical information (averages) about performance organized by operators or devices.

Three other reports give (filtered) list of events – tests, accesses and clock respectively. ESD Test history has special feature added.

ESD Test history showing 1-20 of 31

Export PDF

Page size 20

Time	Operator	Department	SmartLog	Hum	Temp	Test Type	Result	Wrist	Left	Right
08/26/2020 7:02 AM	TX Test 1	TX1	(159840298394)	58%	44°C	Foot and Wrist (Optional)	Pass	W1: 2.0M W2: 4.0M	4.4M	7.3M
08/26/2020 7:02 AM	TX Test 1	TX1	(159840298394)	58%	41°C	Foot and Wrist (Optional)	No test			
07/28/2020 11:14 AM	Test77		Roberto's SmartLog	0%		Wrist Only	No test			
07/24/2020 7:31 PM	Test77		Roberto's SmartLog	85%	33°C	Foot and Wrist (Optional)	Fail	W1: 12G	6.0K	5.0K
07/08/2020 4:42 PM	TX Test 1	TX1	Steve Test	79%	29°C	Foot and Wrist (Optional)	Pass	W1: 550K W2: 40M	413M	591M
07/07/2020 7:50 PM	TX Test 1	TX1	Steve Test	21%	-8°C	Foot and Wrist (Optional)	Pass	W1: 11M W2: 26M	373M	396M
07/07/2020 7:42 PM	TX Test 1	TX1	Steve Test	13%	-4°C	Foot and Wrist (Optional)	Pass	W1: 1.0M W2: 20M	341M	233M
07/07/2020 7:41 PM	TX Test 1	TX1	Steve Test	9%	-11°C	Foot and Wrist (Optional)	Pass	W1: 19M W2: 12M	14M	703M
07/07/2020 5:56 PM	TX Test 1	TX1	Steve Test	81%	38°C	Foot and Wrist (Optional)	Pass		154M	775M
07/07/2020 5:55 PM	TX Test 1	TX1	Steve Test	77%	36°C	Foot and Wrist (Optional)	Fail	W1: 25M W2: 8.7M	172M	1.2G
06/23/2020 8:39 PM	TX Test 1	TX1	Steve Test	98%	30°C	Foot and Wrist (Optional)	Pass		99M	313M
06/23/2020 8:38 PM	TX Test 1	TX1	Steve Test	94%	27°C	Foot and Wrist (Optional)	Pass	W1: 26M W2: 13M	588M	153M
06/23/2020 7:48 PM	TX Test 1	TX1	Steve Test	86%	13°C	Foot and Wrist (Optional)	Pass	W1: 4.8M W2: 22M	857M	893M
06/23/2020 7:45 PM	TX Test 1	TX1	Steve Test	77%	-23°C	Foot and Wrist (Optional)	Pass	W1: 7.5M W2: 11M	908M	619M
06/16/2020 7:48 PM	TX Test 1	TX1	Steve Test	70%	30°C	Foot and Wrist (Optional)	Fail	W1: 42M W2: 2.5M	59M	281M

It is possible to enter and review notes for every failed test (see little note icon next to Fail result):

Notes for event
✕

Cancel
Save

All history reports also have standard preview capability (clicking on event row):

ESD Test details
✕

🕒 08/26/2020 7:02 AM

📄 (159840298394)

💧 58%

👤 TX Test 1 (1111) , TX1

📍 (192.168.2.105)

🌡️ 44°C

Foot and Wrist (Optional)
Pass

Wrist:

Pass
W1: 2.0M
W2: 2.0M

Left Foot:

Pass
4.4M

Right Foot:

Pass
7.3M

Alerts

Alerts are similar to reports – they are standard list views with standard filtering, sorting, pagination and export and they report information about events that may require immediate attention.

Unlike reports they are “live”, meaning that they refresh in real time.

Following alert reports are available:

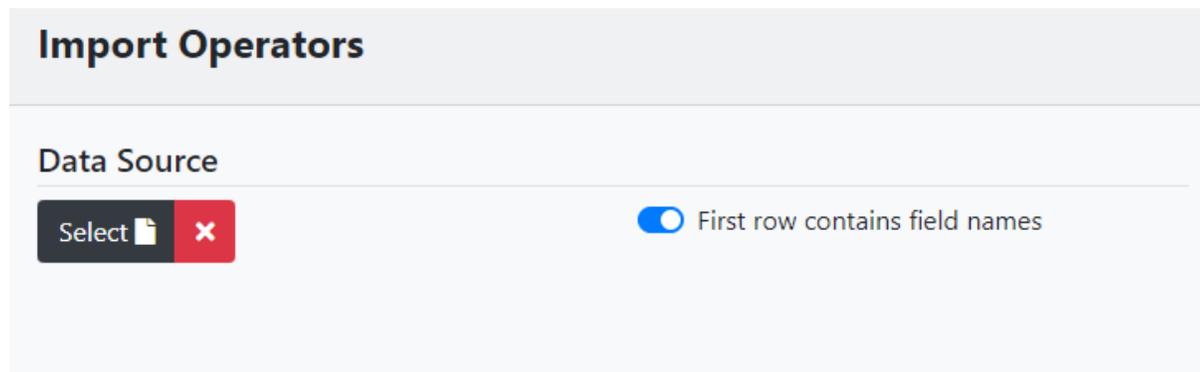
- **Clock IN** shows a list of operators that haven’t passed ESD test after clocking in within defined period of time
- **Retest** shows a list of operators that haven’t passed ESD test after failed ESD test within defined period of time
- **High Fail** shows a list of operators that have large number of consecutive failed ESD tests (greater then defined threshold)

All alerts are also e-mailed by SLP Backend as they occur. Department managers will automatically receive e-mail for every alert for any of their operators.

Import Operators

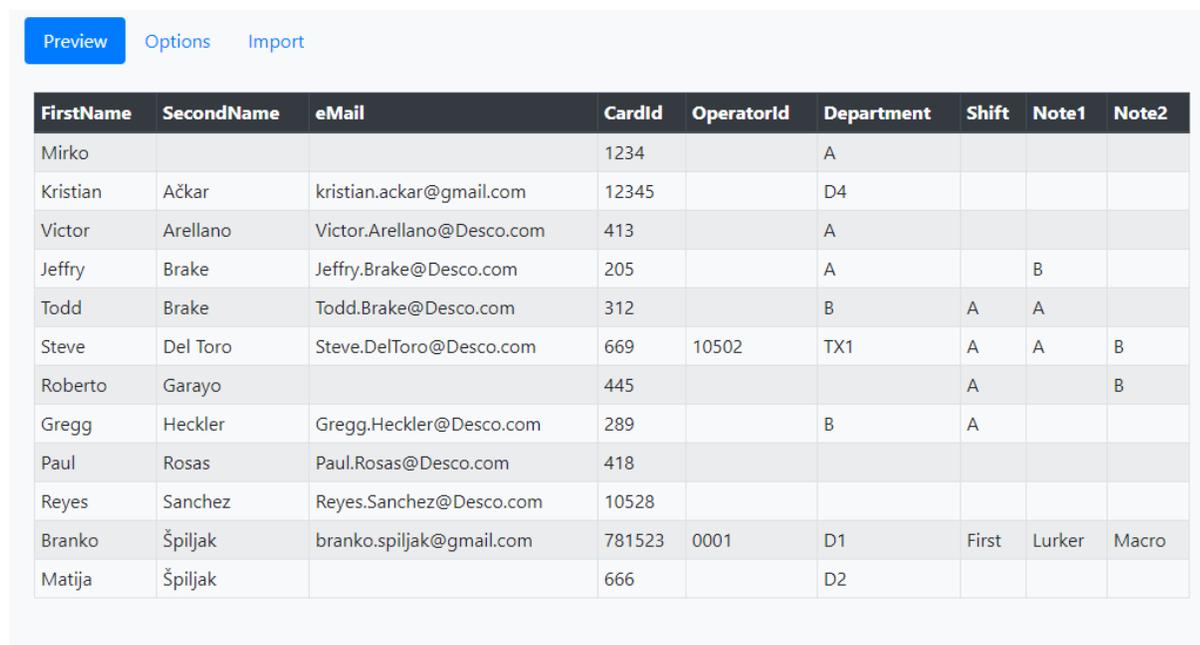
One of the common tasks in setting up SLP system is creating (entering) operators. SLP Manager has **Import Operators** feature (under **Tools** menu) that can greatly speed up this process. Import has some advanced features and it is also possible to use it for some other tasks like bulk update of existing operators (for example to change department or default test for a group of operators at once).

First step in import process is selecting input file:



Most common tabular data sources (excel, text files, comma or tab separated files) are supported and it is also possible to specify whether first row contains column names or not.

When file is selected full preview of contained data is shown on the Preview tab:



FirstName	SecondName	eMail	CardId	OperatorId	Department	Shift	Note1	Note2
Mirko			1234		A			
Kristian	Ačkar	kristian.ackar@gmail.com	12345		D4			
Victor	Arellano	Victor.Arellano@Desco.com	413		A			
Jeffry	Brake	Jeffry.Brake@Desco.com	205		A		B	
Todd	Brake	Todd.Brake@Desco.com	312		B	A	A	
Steve	Del Toro	Steve.DelToro@Desco.com	669	10502	TX1	A	A	B
Roberto	Garayo		445			A		B
Gregg	Heckler	Gregg.Heckler@Desco.com	289		B	A		
Paul	Rosas	Paul.Rosas@Desco.com	418					
Reyes	Sanchez	Reyes.Sanchez@Desco.com	10528					
Branko	Špiljak	branko.spiljak@gmail.com	781523	0001	D1	First	Lurker	Macro
Matija	Špiljak		666		D2			

(in example above first row contained column names).

Data preview is quite useful especially in cases when column names were not specified in the first row. It also helps in column mapping definition that will be explained below. It is always possible to switch between tabs. In

fact, it will often happen that switching between Options and Preview is used to determine proper column mapping or simply to doublecheck everything before triggering import.

NOTE

If you will be importing information for the **Status**, **Required Test** or **Periodic** fields in your file please note that the program uses numeric codes for those. You will need to use the numeric entries below to designate the various available options for those fields.

Status

Active = 0
Inactive = 1
Deleted = 2
Blocked = 3

Required Test

No Test Required = 0
Wrist Only = 1
Footwear Only = 2
Foot and Wrist = 3
Foot or Wrist = 4
Foot and Wrist (Optional) = 5
Smock Only = 6
Foot and Smock = 7
Foot and Smock (Optional) = 8
User Choice = 10

Periodic

False = 0
True = 1

Next step in import procedure is defining column mappings and default values. This is done on Options tab:

Column	Import to
Column1	First Name
Column2	Second Name
Column3	--- not imported ---
Column4	--- not imported ---
Column5	Operator ID
Column6	Test ID
Column7	First Name
Column8	Second Name
Column9	e-mail
Column10	Department
Column11	Shift
Column12	Group 1

Defaults

Apply always Apply only if missing

Active

Department

Shift

Group 1

Group 2

Foot and Wrist (Optional)

Required test: 4

Only tests periodically

Example above shows a case when first row didn't contain field names. In this case columns will be named Column1, Column2, etc.

If first row contained field names, SLP Manager will try to figure out best column mapping. For example, if column was named "name" it will be mapped to First Name field. It is important to note that this matching is not perfect and it won't be able to match some columns or match some columns to wrong fields. It is always advisable to check matching carefully and add missing mappings manually, correct wrong ones and/or remove mappings for columns that should not get imported.

It is often case that some rows do not have values for standard columns. It is possible to define defaults in those situations.

IMPORTANT!

By default, only Status, Default test, Retest period and Periodic tester fields are marked for applying defaults. In order to apply also, for example, Department you should enter value for department but **also turn on** checkmark next to it. Only defaults that are checked will get applied.

Applying defaults is primary intended for filling in missing values but it is also possible to apply defaults always (to all imported operators). This feature is particularly useful when changing attribute of a group of existing operators.

For example, to change default test for all (or some) operators you should first perform export on operators list view as described before and then import this file while using default for Default test (new desired value) and applying to all.

Last step is import itself but before that SLP Manager offers one last check – import preparation. It is done on Import tab by clicking on **Prepare** button:

Preview Options **Import**

Create new Operators
 Update existing Operators
 Create/Update selected only
 Prepare

Operator ID field is required! Use Options tab to select related source column.

If there were any errors that are critical for import SLP Manager will show appropriate error message like in example above. Critical errors have to be corrected in order to proceed. Situations like that are solved by switching back to Options and adjusting mappings then clicking Prepare again. Import data is held in memory and it is therefore possible to switch between tabs as often as necessary.

Finally, when all critical errors are corrected, Prepare will show how imported data will look like:

Preview Options **Import**

Create new Operators
 Update existing Operators
 Create/Update selected only
 Prepare **Import**

CREATE												
<input type="checkbox"/>	Name	ID	e-mail	Department	Shift	Note 1	Note 2	Status	Required test	Test Valid	Periodic	ID Expiration
<input type="checkbox"/>	Contractor Test 132	Operator ID: 132	✉ 101@101.com	Contractor				Active	Foot and Wrist (Optional)	24	✘	
<input type="checkbox"/>	Contractor Test 119	Operator ID: 119		Contractor				Active	Foot and Wrist (Optional)	6	✘	

It will also be possible to import only subset (selected) of input data if Create/Update selected only option was selected.

If both Create new Operators and Update existing Operators were selected this final preview will show operators to be created and operators to be updated in separate tables.

Prepare is important as a last check because import can't be undone once started. It is advisable to check whether columns were properly matched, all fields have meaningful values, etc. If something is wrong, it is always possible to switch to options, change things and run Prepare again until everything is correct.

Automatic Operators Import

SLP Manager has an **Automatic Operators Import** feature (under **Tools** menu) that allows the automatic import of operators from a file.

For this feature to function you will need to create and specify a **Data Folder** where the import file with the operator data will be placed and a **Backup Folder** where a copy of the automatically imported file will be backed up under a name that includes the date and time of the import.

Most common tabular data sources (excel, text files, comma or tab separated files) are supported. It is also possible to specify whether first row contains column names or not in the Data tab.

Options | Data | History

Active

C:\Operator Import\Data

Data folder

C:\Operator Import\Data\Backup

Backup folder

Create new Operators

Update existing Operators

Create unmatched Departments, Shifts and Groups

Several options

are available that let you specify if you want to just create new operators, update existing ones and create unmatched data.

Once the option is set to **Active**, any data file you place in the **Data folder** will be imported into the program within a few seconds.

How the file is imported will be determined by how the fields are defined in the Data tab based on your selected **Sample** file. It is important to define column mappings and default values in this tab. You may open the regular Import Operators section in a separate browser window or tab to test your data file using its Preview tab prior to finalizing your settings in this tab.

Options | Data | History

Columns

Sample

First row contains field names

Column	Import to
Test ID	Test ID
First Name	--- not imported ---
Last Name	Operator ID
e-mail	Test ID
Operator ID	First Name
Department	Last Name
Test Valid	e-mail
Periodic	Department
	Shift
	Group 1
	Group 2
	Required test
	Test Valid
	Periodic
	Status

Defaults

Apply always Apply only if missing

Active

Department

Shift

Group 1

Group 2

Foot and Wrist (Optional)

Required test

4

Hours until retest required

Only tests periodically

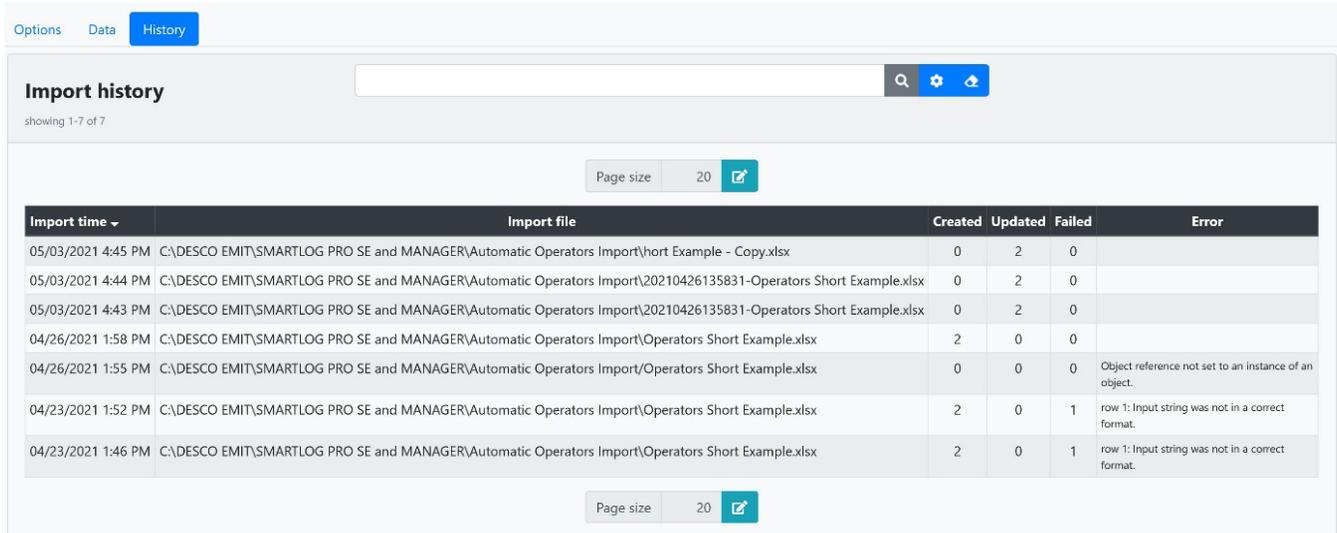
If first row contained field names, SLP Manager will try to figure out best column mapping. For example, if column was named “name” it will be mapped to First Name field. It is important to note that this matching is not perfect, and it won’t be able to match some columns or match some columns to wrong fields. It is always advisable to check matching carefully and add missing mappings manually, correct wrong ones and/or remove mappings for columns that should not get imported.

It is often case that some rows do not have values for standard columns. It is possible to define defaults in those situations.

IMPORTANT!

By default, only Status, Default test, Retest period and Periodic tester fields are marked for applying defaults. In order to apply also, for example, Department you should enter value for department but **also turn on** checkmark next to it. Only defaults that are checked will get applied.

Applying defaults is primary intended for filling in missing values but it is also possible to apply defaults always (to all imported operators).



The screenshot shows the 'History' tab in the SLP Manager interface. It displays an 'Import history' table with columns for 'Import time', 'Import file', 'Created', 'Updated', 'Failed', and 'Error'. The table lists several import operations, including successful ones and one with an error message: 'Object reference not set to an instance of an object.' and 'row 1: Input string was not in a correct format.'

Import time	Import file	Created	Updated	Failed	Error
05/03/2021 4:45 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\hort Example - Copy.xlsx	0	2	0	
05/03/2021 4:44 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\20210426135831-Operators Short Example.xlsx	0	2	0	
05/03/2021 4:43 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\20210426135831-Operators Short Example.xlsx	0	2	0	
04/26/2021 1:58 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\Operators Short Example.xlsx	2	0	0	
04/26/2021 1:55 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\Operators Short Example.xlsx	0	0	0	
04/23/2021 1:52 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\Operators Short Example.xlsx	2	0	1	row 1: Input string was not in a correct format.
04/23/2021 1:46 PM	C:\DESCO EMIT\SMARTLOG PRO SE and MANAGER\Automatic Operators Import\Operators Short Example.xlsx	2	0	1	row 1: Input string was not in a correct format.

If there were any errors during the automatic import, SLP Manager will show appropriate error messages in the History tab as shown above. Errors must be corrected in order to properly import future files. Errors are solved by switching back to Options or Data tabs and adjusting mappings or settings or modifying your data file with the operator information.

You may then test the automatic import again by simply placing a new operator data file in the **Data folder** and checking the History tab for the results after a few seconds.

Options

SLP Manager provides control over certain system options. It is possible to set and change some display aspects of SLP Manager itself but also control operation of some backend features.

IMPORTANT!

All changes made on Options page have to be saved explicitly!

Settings related to SLP Manager are grouped on **Display** tab:

System Options

Save

Display **Operational** Report Schedule

General

20

Temperature in °F

Page size for Admin lists:

Landing page widgets

	Page size	Refresh (seconds)	Within last (hours)
<input checked="" type="checkbox"/> Recent ESD tests	10	10	
<input checked="" type="checkbox"/> Operator last known ESD status	10	10	
<input checked="" type="checkbox"/> Failed ESD tests	20	15	12
<input checked="" type="checkbox"/> SmartLogs with high FAIL rate	20	15	12
<input checked="" type="checkbox"/> Operators with high FAIL rate	20	15	12

Alerts

	Page size	Refresh (seconds)
No ESD Test after Clock IN	20	15
No ESD PASS after FAIL	20	15
High ESD FAIL count	20	15

Here it is possible to control:

- temperature units (Celsius or Fahrenheit)
- page size (number of rows) on all list views under Administration section
- aspects of landing page widgets (page size, live refresh period and period for widgets showing failures)
- turn landing page widgets on/off
- control aspects of alert views (page size and live refresh period)

Operational tab contains settings that control backend operation:

Display **Operational** Report Schedule History Schedule

Alerts

Set to 0 to disable alert

0

No ESD Test after Clock IN (minutes)

10

No ESD PASS after FAIL (minutes)

30

High ESD FAIL count (# Fails)

Mailing Lists

Test List

Database

0

Purge events older than (months) *(set to 0 to keep events forever)*

Mail Server (SMTP)

Leave Server blank to disable

smtp.example.net

Server

587

Port

Use SSL

Example@Example.com

Username

Password

Password

Mailserver@example.com

Sender

SLP Backend may send e-mails to department managers (alerts), selected admins (reports) and on demand from various views (as explained before). To make mailing functionality available, SLP uses SMTP mail server. All required parameters for SMTP server are available on this tab. This is an advanced feature normally performed by network/system administrators.

SLP maintains system database to store data. It is accessed directly only by SLP backend internally and data services are available by api layer to clients. Even though expected database growth over time won't be a problem in most cases, it may happen in large systems with many connected SmartLog Pro® SE and SmartLog Pro® 2 devices that it accumulates millions or even billions of ESD tests over time. SLP has opt in safeguard against this situation. It is possible to set on this tab a period in months to keep events stored (ESD tests,

Accesses, Clock events). All events older than set period will get purged from the database automatically. This happens in the backend silently and cannot be undone.

Finally, it is also possible to control alerts here. Configuration is simple and consists of setting “key period” for each alert. It is also possible to completely disable certain alerts here by setting to a value of 0. The mailing lists option under the Alerts is to include any additional e-mails (outside of the default users assigned to departments) via mailing lists you have created.

Report Schedule tab maintains schedule for sending automated reports from SLP backend (this is basically the Operator ESD Status from the main window in report form; not every single ESD test is shown):

The screenshot shows a web form titled "New Report Schedule" with a close button in the top right corner. The form is divided into several sections:

- Report** (selected), **Filter**, and **Columns** tabs.
- Name**: A text input field.
- Time**: A text input field with a calendar icon.
- Active**: A toggle switch currently turned on.
- Days**: A row of checkboxes for days of the week: Su, Mo, Tu, We, Th, Fr, Sa. All are checked.
- Mailing Lists**: A large text area for entering mailing list names.
- Additional e-mails**: A text input field for additional email addresses.
- Archive location (folder)**: A text input field for the folder path.
- Formats**: A row of checkboxes for report formats: Text, Excel, HTML. All are checked.
- Buttons**: "Cancel" and "Save" buttons at the bottom right.

NOTE

Active scheduled reports are “once per day” only. Meaning that if the report was already processed (created, stored, sent) today it will not be sent out again regardless of any modifications to the report (modifying the time, e-mails, etc.). Any changes made will be applied the next time it is scheduled to run. There is an **Execute** button in the listing of reports which allows you to repeat sending/running the report on the same day if you need to.

This tab contains standard list view to display/filter schedules and creating/editing schedules is self-explanatory. A report may be enabled/disabled via the **Active** option.

A report may be filtered by Department, Shift, Groups, Location, SmartLog or Result via the Filter tab.

SLP implements sending (HTML) reports by mail. It is possible to select one or more mailing lists but it is also possible to add extra emails in the form above. Additional e-mails can contain multiple e-mail addresses separated by commas, semicolons, or spaces.

It is also possible to store reports as files on the local computer by specifying **Archive location** in the form above. Archive locations have to be entered as FULL paths. Valid examples are: *C:/Desco/Reports/Archive* or *D:\SLP Reports*.

Report creation is handled by SLP Backend. If archive folder doesn't exist backend will create it. Stored reports come in three formats:

- TXT – tab delimited text file containing report data (suitable for import)
- EXCEL – Excel file containing report data (suitable for import)
- HTML – similar to report sent by email

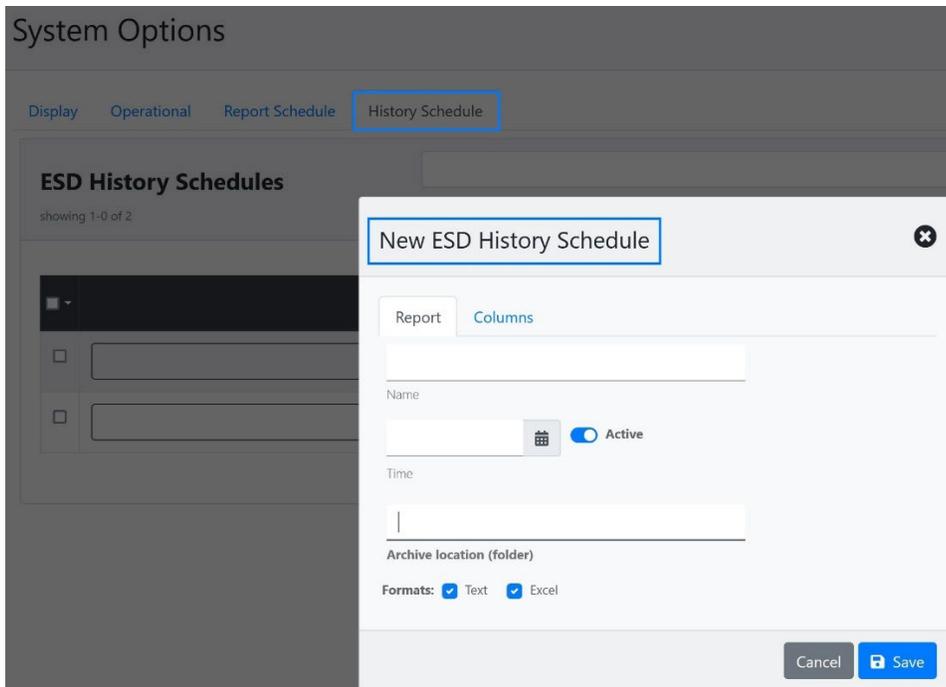
This feature is also quite flexible. It is possible to create several reports (even triggered at same time) that perform different tasks. Some may send emails, some may archive reports for later review or use, some may do both.

History Schedule tab has an ESD History report that exports all captured ESD logs for a given time period.

The screenshot shows the 'System Options' interface with the 'History Schedule' tab selected. Below the navigation tabs, there is a search bar and a '+ New Schedule' button. The main content area displays a table titled 'ESD History Schedules' with the following data:

	Name	Time	Archive	Active
<input type="checkbox"/>	1145 History Report	11:45	✓	✓
<input type="checkbox"/>	1200 History Report	12:00	✓	✓
<input type="checkbox"/>	1500 History Report	15:00	✓	✓

In the example image above, the first report at 11:45 would capture all ESD transactions from midnight up to the time the report was sent. The second report 12:00 would provide results from when the last report was sent up to when this report is sent (11:45-12:00). If you wish to capture all logs for the day, you may create one report with a time of 23:59.



A report may be enabled/disabled via the **Active** option.

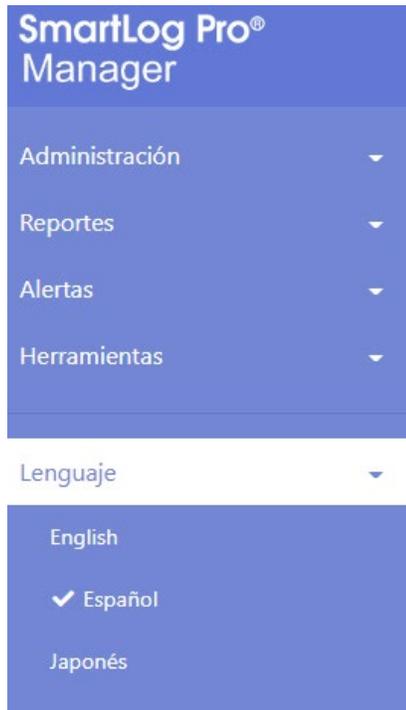
Store reports as files on the local computer by specifying **Archive location** in the form above. Archive locations have to be entered as FULL paths. Valid examples are: *C:/Desco/Reports/Archive* or *D:\SLP Reports*.

Report creation is handled by SLP Backend. If archive folder doesn't exist backend will create it. Stored reports come in two formats:

- TXT – tab delimited text file containing report data (suitable for import)
- EXCEL – Excel file containing report data (suitable for import)

Changing language

SLP Manager is translated and available in several languages. Language selection is done from the sidebar:



Software activation

SLP requires valid license to operate. Upon installation, SLP will run with trial license and validity is shown on the sidebar:



IMPORTANT!

License is related to SLP backend even though it is shown on and maintained by SLP Manager. If license expires whole SLP will stop working.

To activate SLP software click on **Activate** button (see above image):

SLP Activation
✕

Product ID
5E85-7435-690C-7TC1-M8F1

Send this id to DESCO and enter obtained activation key below

Activation key

Cancel
Activate

This form contains unique Product ID. Send this ID to your EMIT representative and obtain activation key. Enter activation key in respective field and click **Activate**.

If entered activation key was valid, SLP will be activated permanently.

It is also possible to obtain extended trial key from EMIT but it will only be valid for limited period of time. Contact your EMIT representative for further details.

Moving the Software – SLP Control Panel

If you wish to move the software to a new computer, you may follow the installation instructions in this guide to install the program on the new PC or Server. It is recommended that you copy the current **slp.sdb** file (by default located in the **C:/Desco/SLP/data** folder) to the new Data folder, so you may continue with your existing data. There are also some **.json** files in the default folder **C:/Desco/SLP/Api/data** shown in the image below that contain settings related to their file names. These may also be copied over, so you don't lose those settings.

Local Disk (C:) > Desco > SLP > API > data

Name	Date modified	Type	Size
history-schedule.json	5/30/2024 4:41 PM	JSON File	1 KB
leave-type.json	5/30/2024 4:40 PM	JSON File	1 KB
report-schedule.json	9/3/2024 2:57 PM	JSON File	2 KB
wiegand.json	2/19/2025 10:25 AM	JSON File	1 KB

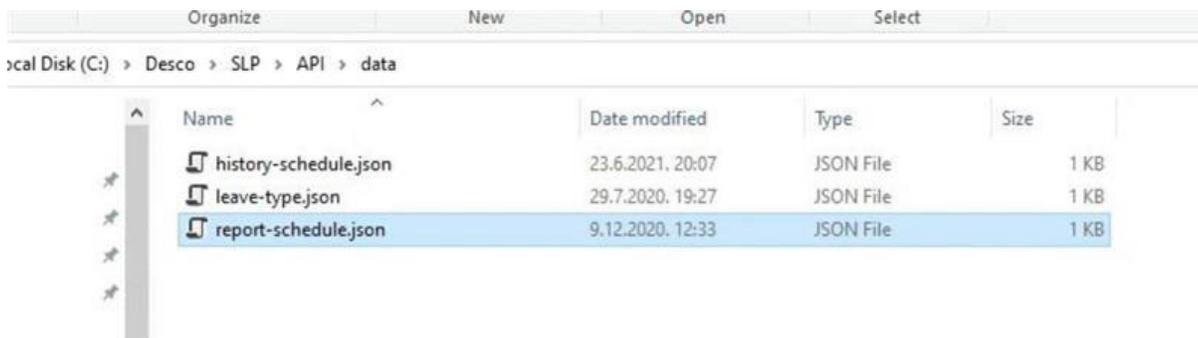
Please note that you should stop the SmartLog Pro® (SLP) Manager web site in IIS on the old computer so that tests completed on the SmartLog Pro® SE and SmartLog Pro® 2 units remain in memory until you begin communicating with the new installation. You will need to restart the SLP Manager site in IIS on the new computer and refresh the program's webpage in your web browser for the file data copying changes to take effect.

You will also need to make sure that you run the Connected Devices Configuration as detailed in the installation procedure to configure your SmartLog Pro® SE and SmartLog Pro® 2 devices to "talk" to the SLP Backend of the new installation.

It is recommended that you uninstall the SmartLog Pro® (SLP) Manager software on the previous computer once you have the installation functioning on the new PC or Server.

Moving the Software – SLP Configuration

If you wish to move the software to a new computer, you may follow the installation instructions in this guide to install the program on the new PC or Server. It is recommended that you copy the current **slp.sdf** file (by default located in the **C:/Desco/SLP/data** folder) to the new Data folder, so you may continue with your existing data. There are also some **.json** files in the default folder **C:/Desco/SLP/Api/data** shown in the image below that contain settings related to their file names. These may also be copied over, so you don't lose those settings.



Please note that you should stop the SmartLog Pro® (SLP) Manager web site in IIS on the old computer so that tests completed on the SmartLog Pro® SE and SmartLog Pro® 2 units remain in memory until you begin communicating with the new installation. You will need to restart the SLP Manager site in IIS on the new computer and refresh the program's webpage in your web browser for the file data copying changes to take effect.

You will also need to make sure that you run the Connected Devices Configuration as detailed in the installation procedure to configure your SmartLog Pro® SE and SmartLog Pro® 2 devices to "talk" to the SLP Backend of the new installation.

It is recommended that you uninstall the SmartLog Pro® (SLP) Manager software on the previous computer once you have the installation functioning on the new PC or Server.

End User License Agreement (EULA)

Last Updated: 2026-01-30

This End User License Agreement ("Agreement") is a legal agreement between the End-User ("User") and EMIT ("Licensor") for the use of SmartLog Pro® Manager ("Software"). By installing, copying, or otherwise using the Software, the User agrees to be bound by the terms of this Agreement.

1. License Grant

Subject to the terms and conditions of this Agreement, Licensor hereby grants the User a limited, non-exclusive, non-transferable, non-sublicensable license to use the Software solely for the User's personal or internal business purposes.

2. Restrictions

The User shall not:

Copy, modify, distribute, sell, or lease any part of the Software.

Reverse engineer, decompile, or attempt to extract the source code of the Software, unless laws prohibit those restrictions or you have our written permission.

Use the Software to develop competing products or services.

Remove, alter, or obscure any copyright, trademark, or other proprietary notices on or in the Software.

3. Ownership

The Software is licensed, not sold. Licensor retains all rights, title, and interest in and to the Software, including all intellectual property rights.

4. Updates

Licensor may provide updates, upgrades, or new versions of the Software ("Updates"). The terms of this Agreement will apply to any Updates unless such Update is accompanied by a separate license agreement, in which case the terms of that agreement will govern.

5. Termination

This Agreement is effective until terminated. Licensor may terminate this Agreement at any time if the User fails to comply with any term(s) of this Agreement. Upon termination, the User must destroy all copies of the Software.

6. Disclaimer of Warranties

THE SOFTWARE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. LICENSOR DOES NOT WARRANT THAT THE SOFTWARE WILL BE ERROR-FREE OR THAT IT WILL OPERATE WITHOUT INTERRUPTION.

7. Limitation of Liability

TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL LICENSOR BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, OR ANY LOSS OF PROFITS OR REVENUES, WHETHER INCURRED DIRECTLY OR INDIRECTLY, OR ANY LOSS OF DATA, USE, GOODWILL, OR OTHER INTANGIBLE LOSSES, RESULTING FROM (A) YOUR USE OR INABILITY TO USE THE SOFTWARE; (B) ANY UNAUTHORIZED ACCESS TO OR USE OF OUR SERVERS AND/OR ANY PERSONAL INFORMATION STORED THEREIN; (C) ANY INTERRUPTION OR CESSATION OF TRANSMISSION TO OR FROM THE SOFTWARE; (D) ANY BUGS, VIRUSES, TROJAN HORSES, OR THE LIKE THAT MAY BE TRANSMITTED TO OR THROUGH THE SOFTWARE BY ANY THIRD PARTY; OR (E) ANY ERRORS OR OMISSIONS IN ANY CONTENT OR FOR ANY LOSS OR DAMAGE INCURRED AS A RESULT OF USE OF ANY CONTENT MADE AVAILABLE VIA THE SOFTWARE, WHETHER BASED ON WARRANTY, CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, AND WHETHER OR NOT LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of California, USA, without regard to its conflict of law principles.

9. Entire Agreement

This Agreement constitutes the entire agreement between the User and Licensor concerning the Software and supersedes all prior or contemporaneous communications and proposals, whether electronic, oral, or written, between the User and Licensor.

10. Severability

If any provision of this Agreement is found to be invalid or unenforceable, the remaining provisions will remain in full force and effect.

11. Contact Information

For any questions regarding this Agreement, please contact EMIT Customer Service at Service@DescoEMIT.com.

Acknowledgment

By installing, copying, or otherwise using the Software, the User acknowledges that this Agreement has been read, understood, and agreed to be bound by its terms and conditions.