



Net2CSVSyncServer

Manual 2.1

(October 26, 2026)

Index

Principle.....	3
Installation.....	4
Configuration.....	5
Net2 connection.....	6
CSV settings.....	8
CSV column assignment.....	10
Application licence.....	14
Licence types.....	14
The CSV column ↔ Net2 department relation.....	15
The CSV column ↔ Net2 access level relation (Pro).....	16
The CSV column ↔ Net2 access level relation (Ultimate).....	17
The advantage of assigning multiple access levels.....	18
E-mail settings.....	19
Standard SMTP.....	19
Azure/Entra.....	20
Error and/or activity reports.....	21
Special settings.....	22
Service control.....	24
Log settings.....	25

Principle

This application offers the possibility to populate the Net2 database and keep it up to date, using the contents of a CSV file.

As a bare minimum, this CSV file must contain:

- The first and/or surname of the users;
- 'Key value(s)', that uniquely identify each user.

Optionally, the CSV file can also contain one or more columns with information about:

- The names or references to the names of the Net2 department in which a user should be placed;

When no column is selected than contains a department value, a generic department can be selected in which all synchronized users will be placed. Optionally, these users can be moved to another department manually, at a later moment.

- The names or references to the names of access levels that should be assigned to the users;

When no column is selected that contains an access level value, a generic access level can be selected that is assigned to all users. Optionally, these users can be assigned another access level manually, at a later moment.

- The licence plates;
- The card numbers and/or licence plates;
You can assign multiple card numbers and/or licence plates to a user.
- Any generic user information, like email address, phone number, etc.

The CSV file can be read from a local folder, in which case the application will monitor the occurrence of a new CSV file in that folder.

Alternatively, the application can also read CSV files from a network share.



Installation

The NetCSVSyncServer application will be installed using a single Windows installation file; Net2CSVSyncServer.msi (Image 1), which will install two applications:

- Net2CSVSyncServerMgr application (to configure the service application);
- Net2CSVSyncServer; the actual synchronization application, that will be installed as a Windows background application.

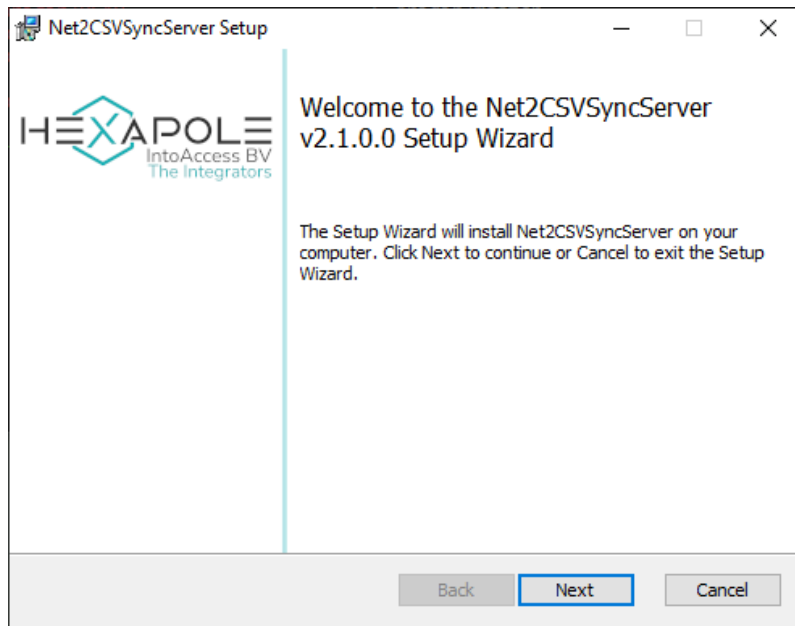


Image 1

It is not mandatory to install the software on the Net2 server, but we do advise that as the most robust configuration. In any case, the application must be installed on a PC with network access to the Paxton Net2 server.

Since V2.0, the application is compatible with the **Net2 API interface** and no longer with the SDK interface that was dropped in Net2 v7. In order to activate the Net2 API, you can use the following manual, which also explains how to obtain a trial or regular product licence:

[Manual for setting up API compatible products](#)



Configuration

Configuring the Net2CSVSyncServer, needs to be done using the also supplied 'Manager application' (Net2CSVSyncServerMgr.exe). When started, this application will display an information screen for a few seconds and then minimize to a tray icon in the right hand bottom corner of the screen/taskbar. By right clicking on the encircled (Image 2), a pop-up menu will be presented.



Image 2

It's possible that the application will render the menu in a wrong language for you, which you can alter by clicking on the top menu item and select the language of choice. By default, English and Dutch are supported.

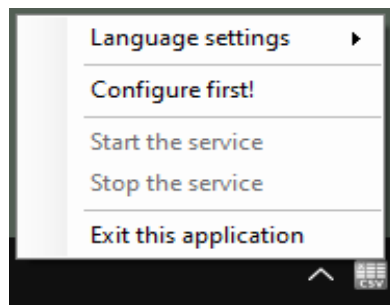
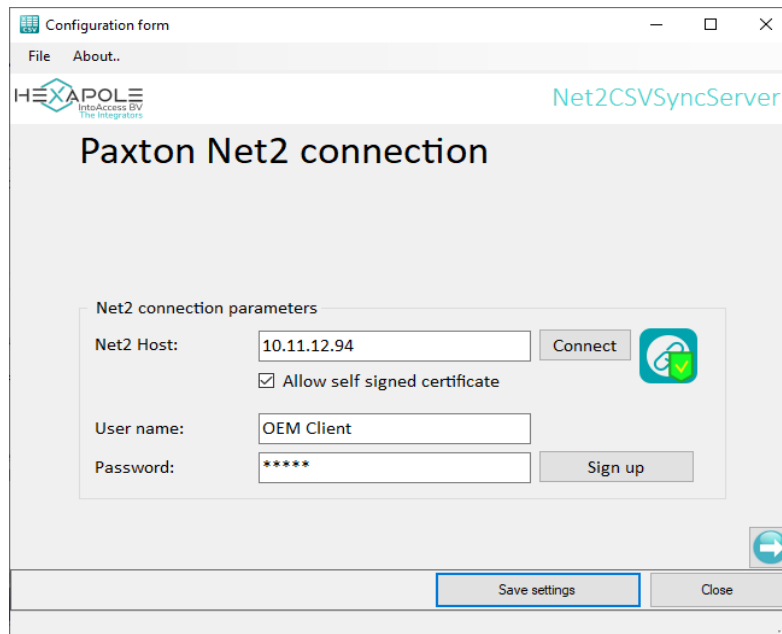


Image 3

While the application is not yet configured, the menu options for starting and stopping the service will not be enabled. In that case select the option 'Configure first!' (Image 3).

Net2 connection

On this first configuration page, the Net2 connection can be configured. (Image 4)



The screenshot shows a window titled "Configuration form" with a menu bar containing "File" and "About..". The window has the HEXAPOLE logo and "Net2CSVSyncServer" in the top right. The main heading is "Paxton Net2 connection". Below this is a section titled "Net2 connection parameters" containing the following fields and buttons:

- Net2 Host:** A text box containing "10.11.12.94" and a "Connect" button.
- ☒ **Allow self signed certificate**
- User name:** A text box containing "OEM Client".
- Password:** A text box containing "*****" and a "Sign up" button.

At the bottom of the form are two buttons: "Save settings" and "Close". A right-pointing arrow button is located on the right side of the form.

Image 4

- Enter the (IP)address of the Net2 server. If you have installed the attendance tool on the Net2 server, you can use the default 'localhost' value. Do not use an external adapter ip address in this case!!;
- Allow the use of a self signed certificate, when during the activation of the Net2 API not explicitly an official certificate (issued by a certificate authority) was used;
- Click the Connect button; if the connection succeeds you can enter the username and password;
- Enter an operator name with which you want the application to log on. This needs to be an operator with the "System engineer" role (you will find these accounts under "Net2 operators" in the Net2 application). We advise the use the 'OEM Client', since it is not subject to MFA. If you have not enabled MFA, you can also use another user. 'The 'OEM Client' user is present by default on every Net2 system, but you will need to assign a known password to it.
- Enter the proper password;
- Click the Sign up button.

If all goes well, a message will appear that the connection was successful and the right hand arrow will change from gray to colored. After closing the success message, you can proceed to the next configuration window, by clicking on the right hand arrow.

It is not necessary and actually undesired, to save the entered data each time you finish a part of the configuration. Since relations exist between the presented configuration pages, data entered on one page may effect settings on another page and even make those invalid. To make the user aware of intermediate saving of setting, a warning window will be presented . (Image 5)

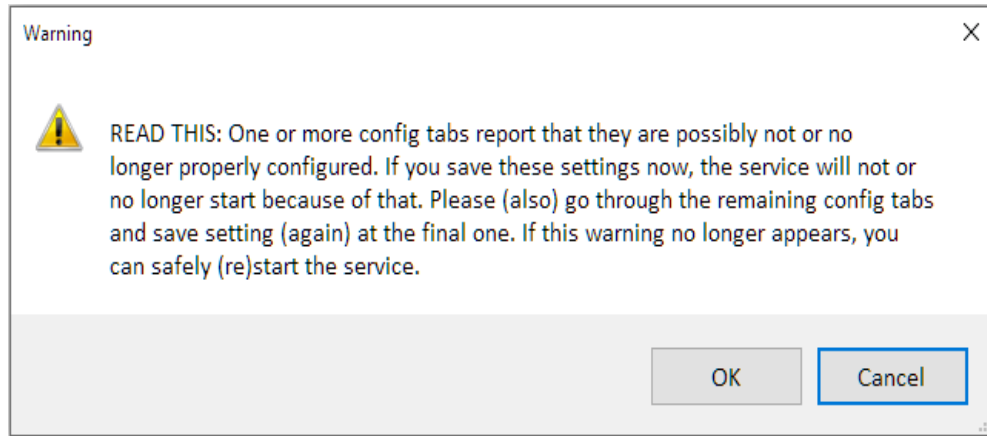
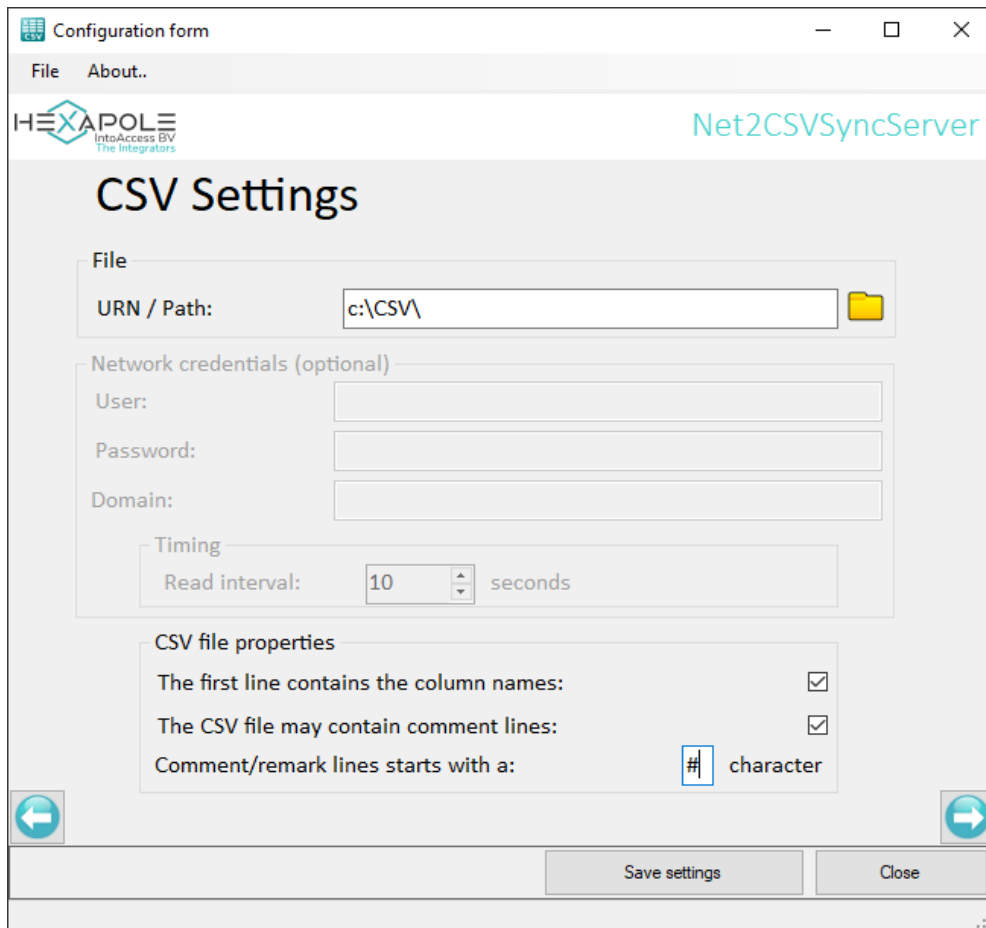


Image 5

CSV settings

On this page, the location can be configured where the application will expect new CSV files.

If this is a folder on a local disk, the application will immediately triggered to process any new files that are placed there. (Image 6)



The screenshot shows a window titled "Configuration form" with a menu bar containing "File" and "About..". The window features the HEXAPOLE logo on the left and "Net2CSVSynServer" on the right. The main section is titled "CSV Settings".

Under the "File" section, there is a "URN / Path:" label followed by a text box containing "c:\CSV\" and a folder icon.

Below this is a section for "Network credentials (optional)" with fields for "User:", "Password:", and "Domain:".

The "Timing" section includes a "Read interval:" label, a spinner box set to "10", and the word "seconds".

The "CSV file properties" section contains three checkboxes:

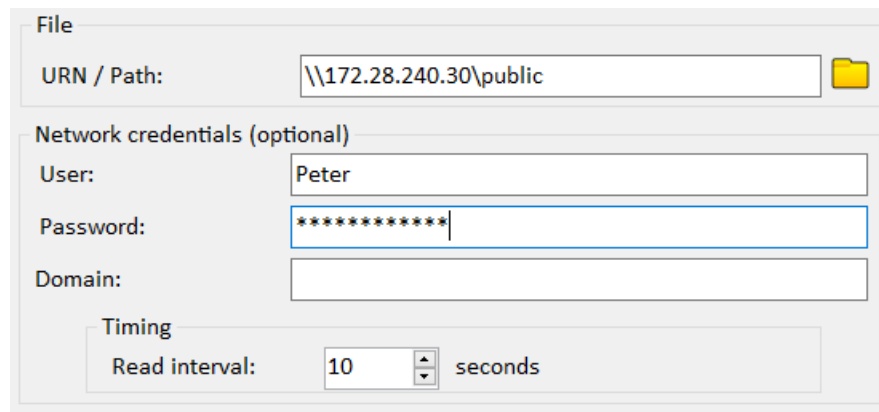
- ☒ The first line contains the column names:
- ☒ The CSV file may contain comment lines:
- Comment/remark lines starts with a: character

At the bottom, there are two buttons: "Save settings" and "Close". Navigation arrows are visible on the left and right sides of the form area.

Image 6

The CSV files can optionally start with a 'header' line, which contains the names of each column. If this is the case, you can check this box so the CSV file will be interpreted as such.

If needed, CSV files are also allowed to contain comment lines that should be ignored. You can check that box if comments are present and configure the character with which comment lines will start.



The screenshot shows a configuration window with three main sections:

- File:** Contains a text field for 'URN / Path:' with the value '\\172.28.240.30\public' and a folder icon to its right.
- Network credentials (optional):** Contains three text fields: 'User:' with the value 'Peter', 'Password:' with masked characters '*****', and 'Domain:' which is empty.
- Timing:** Contains a text field for 'Read interval:' with the value '10' and a spinner control, followed by the text 'seconds'.

Image 7

If the URN/Path definition starts with '\\', the application will assume it is a URN / network share (Image 7). If the computer is not configured to be 'trusted', credentials can be entered to use as authentication for accessing the share. When the computer is 'trusted', leave the credentials blank. The domain value is optional in most cases.

The 'Read interval' is the interval with which the application checks for a new CSV file. For the example value above, this means that every 10 seconds a check for a new CSV is done.

CSV column assignment

On this page, the columns in the CSV file can be assigned to / mapped on the Net2 user fields. In order to assist with that process, the application will ask for an example CSV file to open. (Image 8)

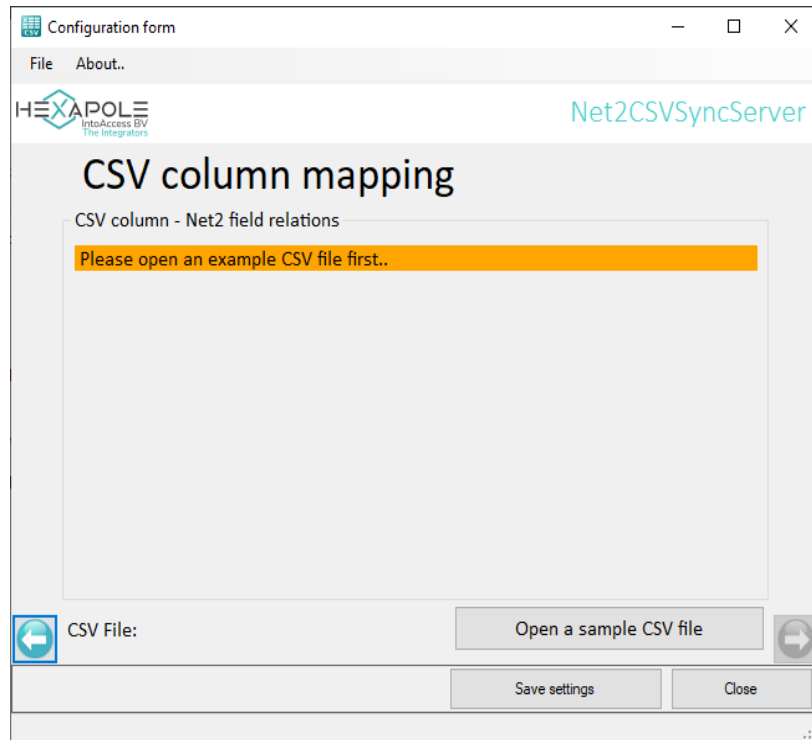


Image 8

Depending on the presence of a header line (with column names), the application will show either those column names or the index number of the columns.

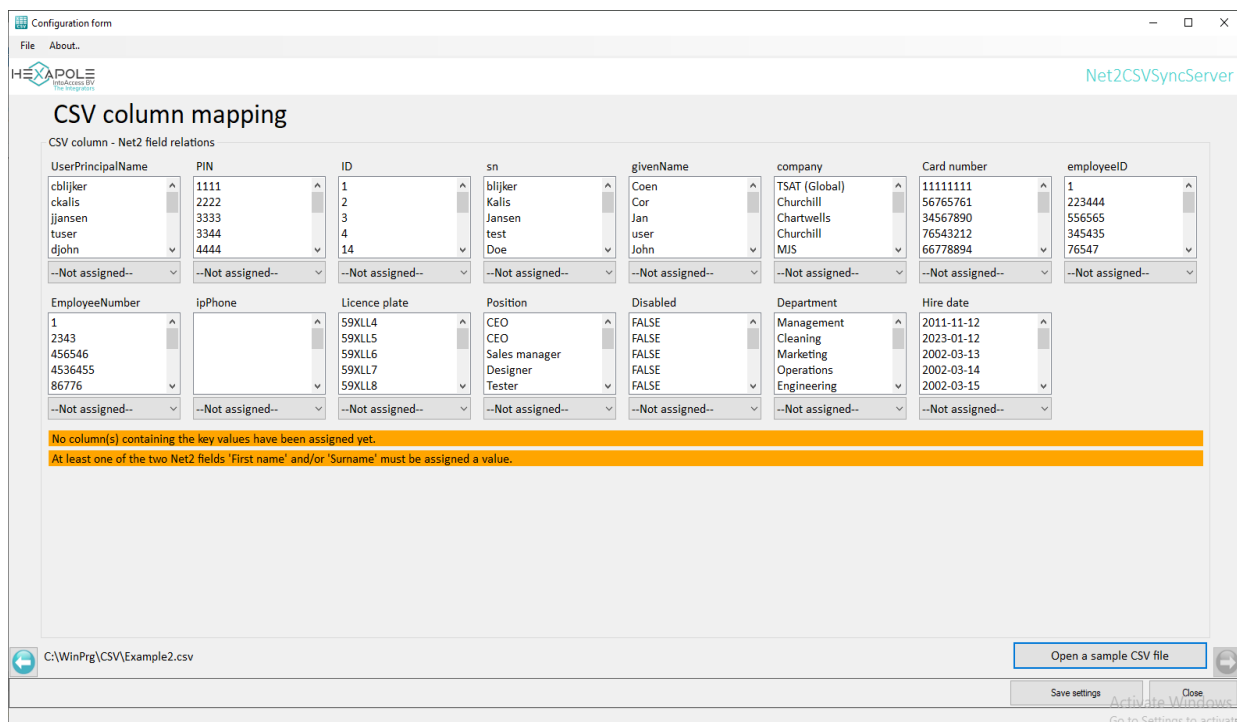


Image 9

Depending on the number of (non comment) lines that the example file contains, the application will display/check the data for a maximum of 150 lines per column.

Above the data found, the name or number of that column will be displayed. Under each column, there is a pull-down menu, offering the Net2 user fields that can be linked/assigned/mapped to that column. (Image 10)

All fields encased within '<>', represent special fields like '<Key values>', '<Access levels>', etc. The remaining fields are 'normal' user attributes. If needed, multiple columns can be selected to act as 'Key value', with the goal of uniquely identifying every user.

The column '<Card/Licence plate>' may contain both card and licence plate information. The column '<Licence plates>' however, should only contain licence plates. When the '<Card/Licence plate>' is picked, the application will first try to determine what kind of cards are being used (Mifare/Paxton), using the example data. Depending on what is found, the application will ask for additional information. (Image 11)

Under the column mapping part of the page, the application will report any 'problems' printed with an orange background. Initially, these messages like that no 'key value' column is selected or no column for either the first or surname of a user.

sn	givenName	co
blijker	Coen	TS
Kalis	Cor	Ch
Jansen	Jan	Ch
test	user	Ch
Doe	John	MI
--Not assigned--	--Not assigned--	--M
Position	--Not assigned--	De
CEO	<Key values>	Ma
CEO	<Access levels>	Cl
Sales manager	<Departments>	Ma
Designer	<Card/Licenceplate>	Op
Tester	<license plates>	En
--Not assigned--	First name	--M
	Middle name	
	Surname	
	Telephone	
	Extension	
	Fax	
	Address 1	
	Address 2	
	Town	
	Country	
	Home Fax	
	Mobile	
	Email	
	Position	

ssigned a value.

Image 10

Card number	employeeID
11111111	1
56765761	223444
34567890	556565
76543212	345435
66778894	76547
<Card/Licenceplate>	--Not assigned--

Card information

Csv contains Mifare cards: ☐

Card number bytes must be swapped: ☐

Cards are in hexadecimal format: ☐

Net2 Card type: Unspecified

- Unspecified
- Proximity card
- Proximity ISO card
- Proximity ISO card no magstri
- Keyfob
- Hands free token
- Hands free key card
- WatchProx
- Fingerprint verification card
- Telephone Number (Caller ID)

Image 11



Some columns are allowed to contain 'boolean' values, but depending on the actual contents of that column, the interpretation may need to be inverted. An example of this would be a value where a user is marked to be disabled. In Paxton Net2, a user can however only be marked as 'enabled', so in that case a FALSE value in a 'user disabled' column, would need to be inverted when mapping onto the 'Active' Net user attribute, turning it into TRUE. (Image 12)

The screenshot shows a mapping interface with several columns: 'Geen inhoud', 'Disabled', and 'Department'. A dialog box is open, asking: "Wilt u de booleaanse waarde in het CSV-bestand 'inverteren' voordat deze wordt toegekend aan het Net2-veld?" (Do you want to invert the boolean value in the CSV file before it is assigned to the Net2 field?). The dialog has 'Ja' (Yes) and 'Nee' (No) buttons. Below the dialog, there is a text area showing a CSV file path: "V:\Example.csv".

Image 12

A summary of all selections made, is displayed at the bottom of the screen. (Image 13)

The screenshot shows a summary of selections at the bottom of the screen. It includes a table with columns: 'Licence plate', 'Position', 'Disabled', 'Department', and 'Hire date'. The table contains data for five rows. Below the table, there is a summary of selections:

- The content of CSV column: 'UserPrincipalName' will be interpreted as 'key' value;
- The values found in CSV column: 'Card number' will be processed as '8 digit Paxton' cards, or as a license plate;
 - Cards are of type: 'Keyfob';
 - Card numbers are provided in a numeric format;
- The CSV column: Licence plate contains license plate values;
- The content of CSV column: Disabled will be inverted before being assigned to 'boolean' Net2 field: 'Active';

Image 13

Any problems that were not solved yet, would still be displayed with an orange background. (also see Image 9)

Application licence

The software as it can be downloaded from the IntoAccess website, is fully functional but will not work without the API or (trial) product licence. In this manual, the procedure to follow is explained in more detail:

[Manual for setting up API compatible products](#)

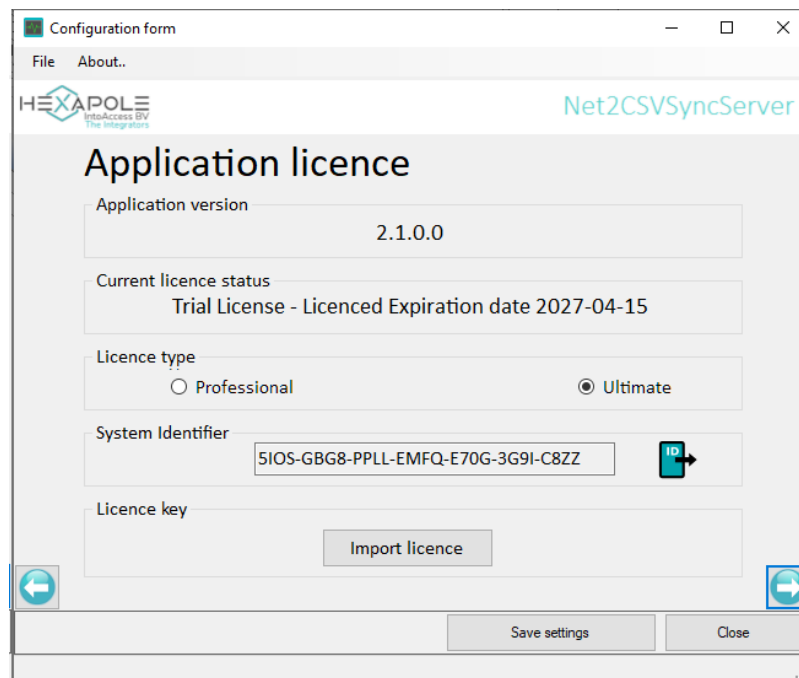


Image 14

Licence types

Two different licence types are offered;

- The **Professional** allows you to link a column value (of a column mapped to <Access levels>) to a single (existing) Paxton Net2 access level.
- The **Ultimate** allows you to link a column value (of a column mapped to <Access levels>) to more than one (existing) Paxton Net2 access level and (if needed) will create new access levels and/or time zones on the fly, to offer the rights of all associated access levels.

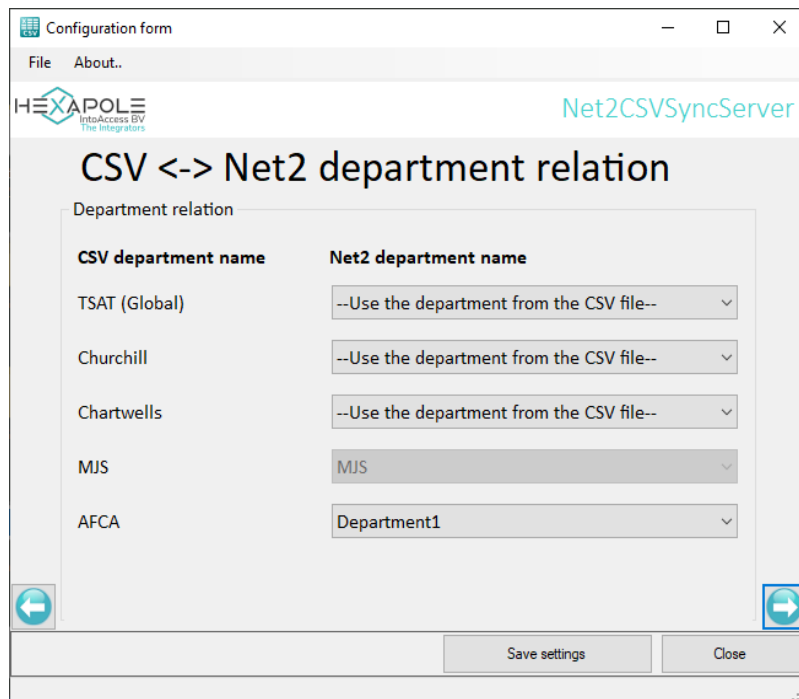


The CSV column ↔ Net2 department relation

This page will only be displayed, when a column is mapped to '<Departments>'. It allows you to link a value found in this column to an existing Net2 department or have a department automatically created with the name of the value found in the column (Image 15)

It allows you to link a value found in this column to an existing Net2 department or have a department automatically created with the name of the value found in the column (Image 15)

- **Use the department from the CSV file:** (the first/default option) create a department with this name if it does not exist already;
- Pick an existing Net2 department, by selecting its name from the drop-down list (following the first/default option). If a department already exists with a name matching the department CSV column value, the application will automatically link them (like MJS in the example below).



CSV department name	Net2 department name
TSAT (Global)	--Use the department from the CSV file--
Churchill	--Use the department from the CSV file--
Chartwells	--Use the department from the CSV file--
MJS	MJS
AFCA	Department1

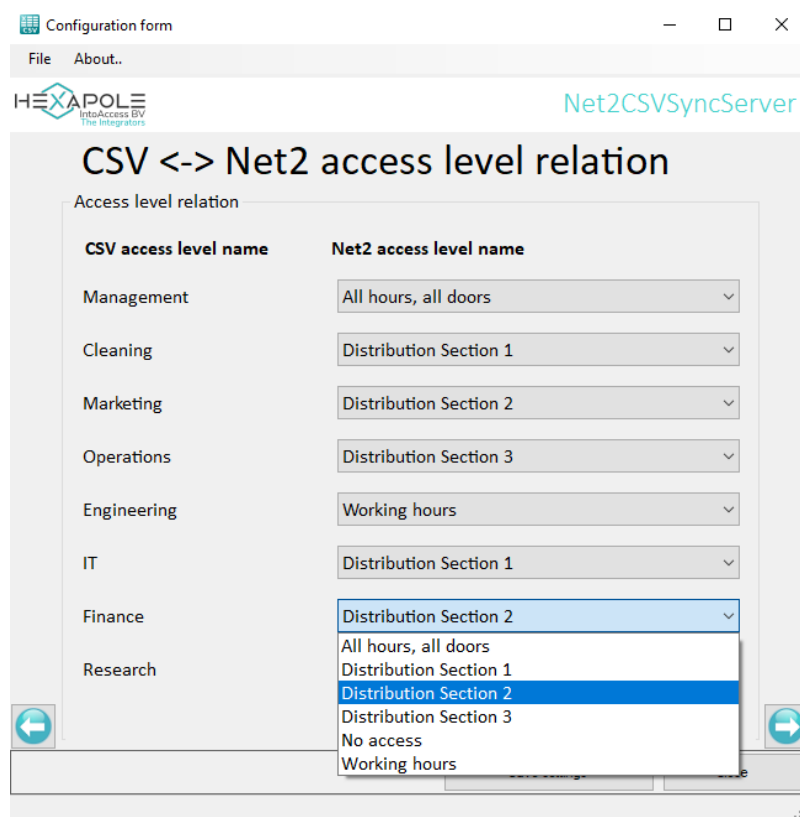
Image 15

The CSV column ↔ Net2 access level relation (Pro)

This page will only be displayed, when a column is mapped to '<Access levels>' and the **Professional** licence type was selected.

On the left side of the screen the <Access levels> column values will be displayed, allowing you to link each to an existing Net2 access level on the right side. (Image 16)

In the example, the values found in the CSV are Management, Cleaning, Marketing, Operations, Engineering, IT and Research (left) and linked to one of the available Net2 access levels (right).



Configuration form

File About..

HEXAPOLE IntoAccess BV The Integrators

Net2CSVSyncServer

CSV <-> Net2 access level relation

Access level relation

CSV access level name	Net2 access level name
Management	All hours, all doors
Cleaning	Distribution Section 1
Marketing	Distribution Section 2
Operations	Distribution Section 3
Engineering	Working hours
IT	Distribution Section 1
Finance	Distribution Section 2
Research	No access

Navigation buttons: Left arrow, Right arrow

Image 16

The CSV column ↔ Net2 access level relation (Ultimate)

This page will only be displayed, when a column is mapped to '<Access levels>' and the **Ultimate** licence type was selected.

Different from the Professional licence, where just one access level can be linked to each value found in the CSV file, now multiple access levels can be linked. To do so, pick an access level to add for the right CSV value and clock on the [+] on the right side of the selected value. To remove an access level, click on the red bin symbol that is associated with it.

Note that only the values displayed in on this page will be assigned. (Image 17)

Configuration form

File About..

HEXAPOLE IntoAccess BV The Integrators

Net2CSVSynServer

CSV <-> Net2 access level relation

Access level relation

CSV access level name	Net2 access level name
Management	--Please select--
	All hours, all doors
Cleaning	--Please select--
	Distribution Section 1
	Distribution Section 2
	Distribution Section 3
Marketing	--Please select--
	Distribution Section 2
Operations	--Please select--
	Distribution Section 3

Save settings Close

Image 17

The advantage of assigning multiple access levels

Below, you will find a more elaborate example of the use of combined access levels, as made possible with the Ultimate licence. The idea here is, that roles of personnel are linked to the correct access levels that provide them access to all spaces where their role need them to go.

So let say that the following access levels are created:

1. 'Location A, front door', which would be needed by anyone working at location A.
2. 'Location A, IT', these IT specific spaces at location A, would be limited to IT personnel only.
3. 'Location A, staff', these staff specific spaces at location A, would be limited to staff only.

So if there was an 'IT' role, it would be assigned access level 1 and 2.

For the 'Staff' role, it would be assigned access level 1 and 3.

An 'CEO' role, could be linked to all three, allowing anyone with that role, access to all spaces.

Note that on this limited scale, a Professional licence could still comfortably be used, but would require a dedicated access level to be created for each role. When the number of roles increases (each needing their specific set of access rights), this will get harder and harder to maintain manually. As a rule of thumb, having to maintain more than 40 access levels this way, is a reason to have a closer look at the Ultimate implementation.

The number of access levels that can be combined this way, is currently limited by the total number of global access levels that Net2 allows: 256 (which includes the ones already present by default)

Another limit is imposed by the time zones: 64

At some point, we will also offer the use of 'Individual' access levels, which would take away the 256 global access level limit at the cost of some performance. There is no escaping the 64 time zone limit though, so try to limit the variations in those where possible.



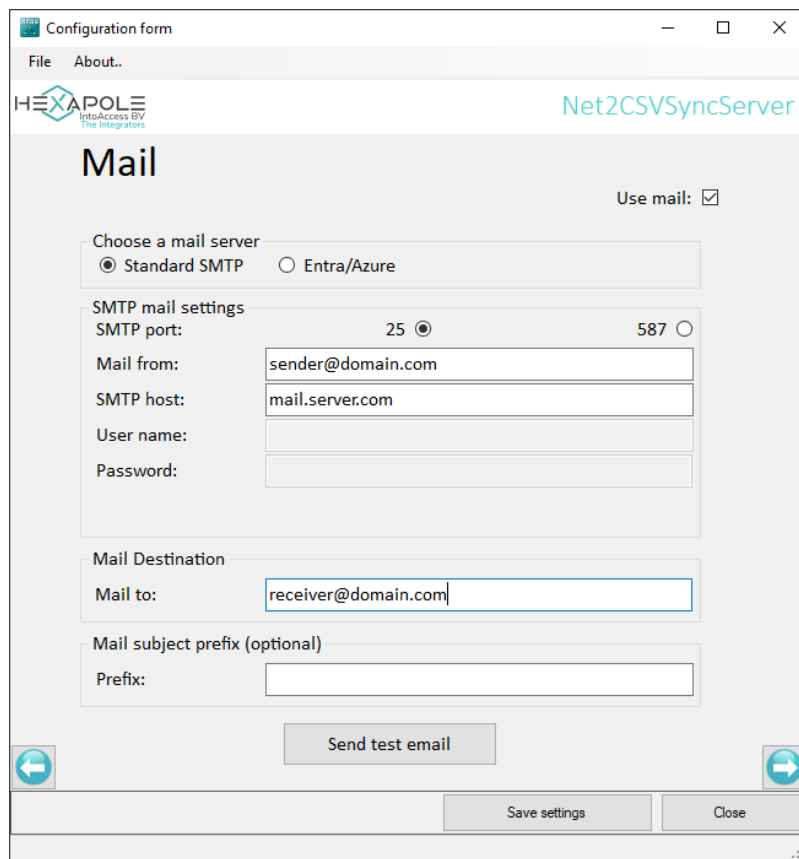
E-mail settings

The email configuration is optional and offers the possibility to send application messages to anyone that needs to take action if the system malfunctions.

Standard SMTP

The SMTP settings allow you to configure which SMTP server and port to use. If you select port 587, authenticated SMTP is also possible by supplying credentials. You may consider using a (free) web mail provider like Hotmail, but note that such providers make it increasingly harder (or even impossible) to use SMTP via their servers.

SMTPS (port 465) is not supported.



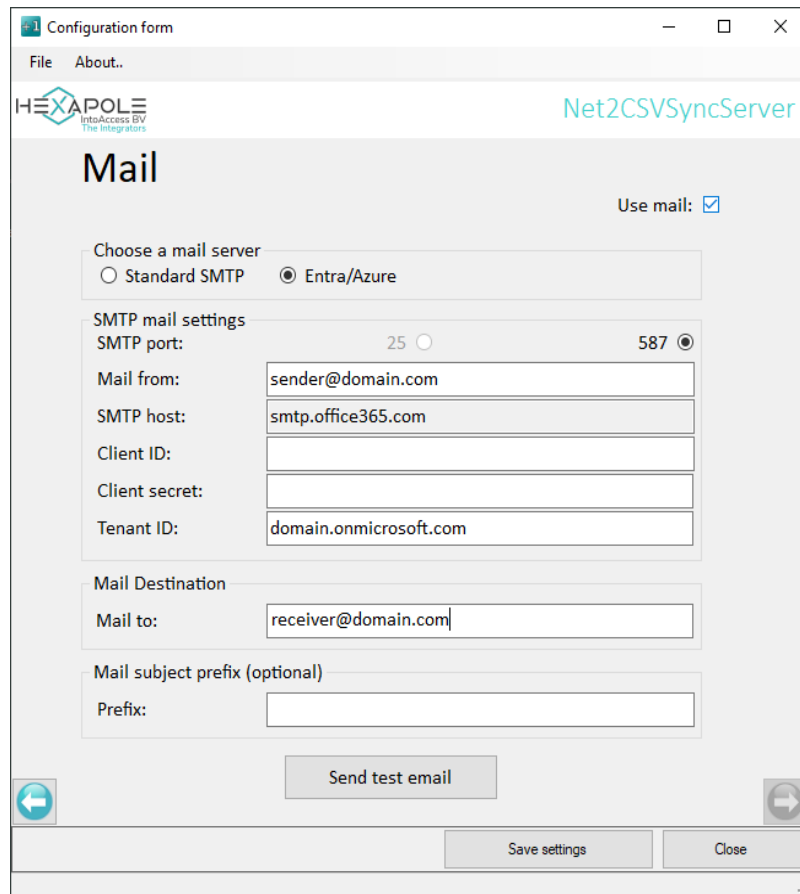
The screenshot shows the 'Mail' configuration window of the Net2CSVSyncServer application. The window has a title bar 'Configuration form' and a menu bar with 'File' and 'About..'. The main content area is titled 'Mail' and includes a 'Use mail:' checkbox which is checked. Below this, there are two radio buttons for 'Choose a mail server': 'Standard SMTP' (selected) and 'Entra/Azure'. Under 'SMTP mail settings', there are fields for 'SMTP port:' (with radio buttons for 25 and 587, where 25 is selected), 'Mail from:' (containing 'sender@domain.com'), 'SMTP host:' (containing 'mail.server.com'), 'User name:', and 'Password:'. Below these is a 'Mail Destination' section with a 'Mail to:' field (containing 'receiver@domain.com') and a 'Mail subject prefix (optional)' section with a 'Prefix:' field. At the bottom of the configuration area is a 'Send test email' button. The window also features navigation arrows on the left and right sides and 'Save settings' and 'Close' buttons at the bottom.

Image 18

To address multiple persons, additional email addresses can be added separated by a semi-colon (;).

Azure/Entra

It is possible to use SMTP with OAuth2 on Azure/Entra. For that to work properly, you need to create an App Registration and follow this manual: [Entra Manual](#).



The screenshot shows the 'Configuration form' window for 'Net2CSVSyncServer'. The 'Mail' section is active, with the 'Use mail' checkbox checked. Under 'Choose a mail server', 'Entra/Azure' is selected. The 'SMTP mail settings' section includes fields for 'SMTP port' (587 selected), 'Mail from' (sender@domain.com), 'SMTP host' (smtp.office365.com), 'Client ID', 'Client secret', and 'Tenant ID' (domain.onmicrosoft.com). The 'Mail Destination' section has a 'Mail to' field (receiver@domain.com) and an optional 'Mail subject prefix' section with a 'Prefix' field. A 'Send test email' button is located below these fields. At the bottom are 'Save settings' and 'Close' buttons.

Image 19

The Azure Tenant ID may be provided in either domain format or as a GUID.

Error and/or activity reports

If on the previous page the option to be able to send email is activated, on this page, see Image 20 can be specified what kind of messages are desired.

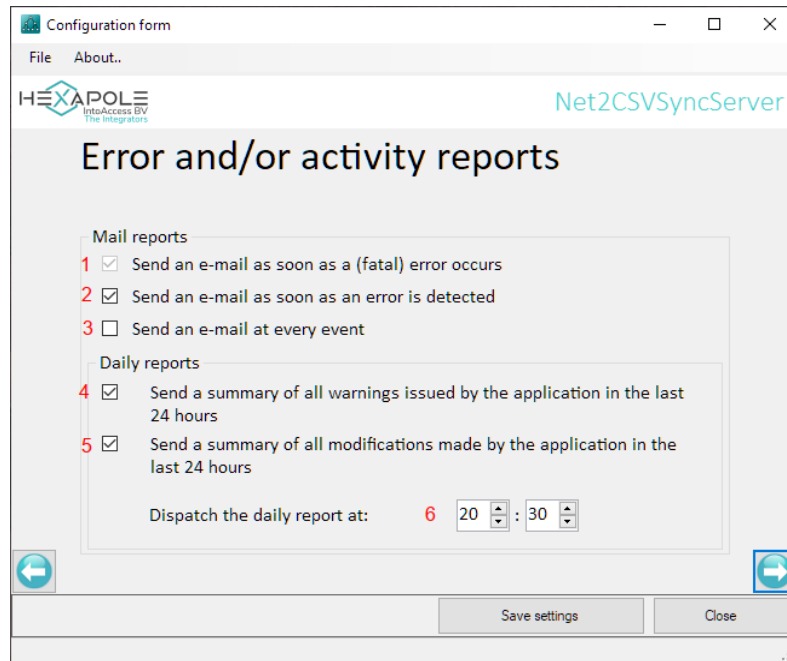


Image 20

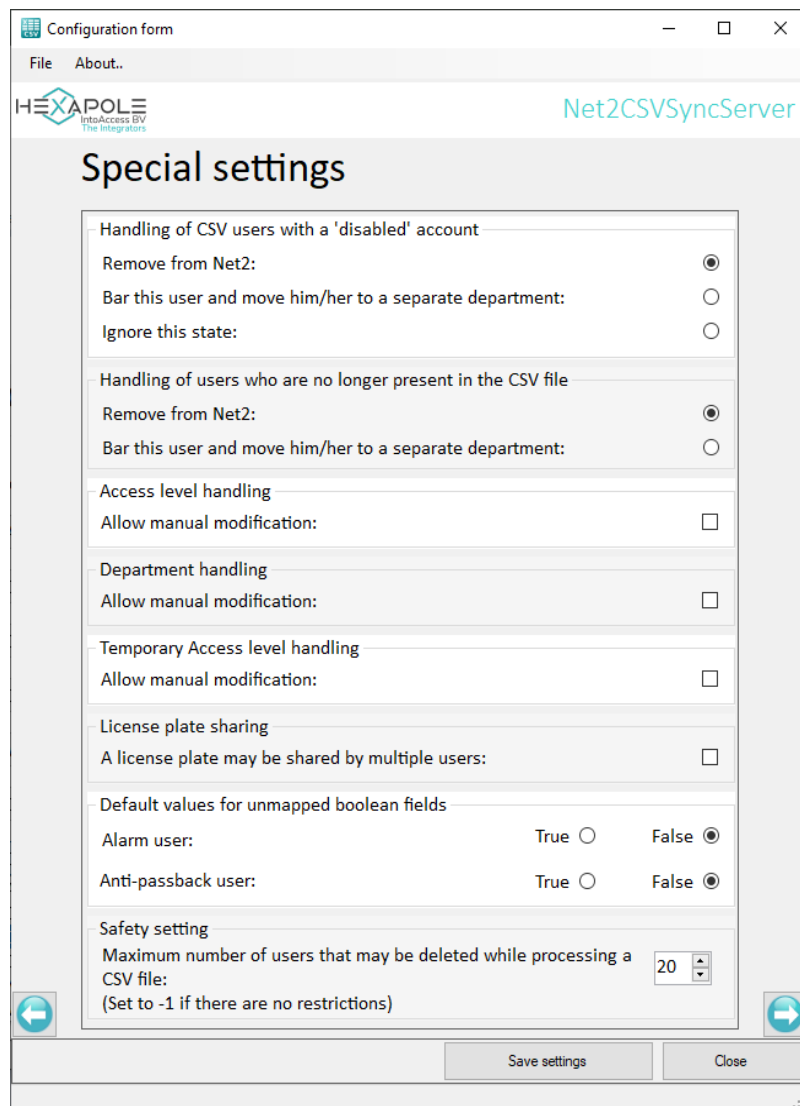
- In all cases (1) an email will be sent the moment a fatal error occurs from which the application cannot recover by itself.
- If desired (2) problems can also be reported that will (normally) not impact the functioning of the application.
- Optionally (3) an email can also be sent at every modification made by the application, or every problem detected, by the application.

In addition, the application can also email daily reports.

- At (4) the option can be activated to send a daily overview at a fixed time of all warnings/errors the application has collected in the past 24 hours.
- The option at (5) causes the application to send a daily report containing all changes made in the past 24 hours.
- At (6) the time at which the report should be sent can be specified.

Special settings

On this page (Image 21) you can configure a number of settings that influence the behaviour of the Net2CSVSyncServer:



The screenshot shows the 'Configuration form' window for Net2CSVSyncServer. The 'Special settings' tab is active, displaying various configuration options. The settings are organized into sections with expandable/collapsible headers. The current state of the settings is as follows:

- Handling of CSV users with a 'disabled' account:**
 - Remove from Net2: ☒
 - Bar this user and move him/her to a separate department: ☐
 - Ignore this state: ☐
- Handling of users who are no longer present in the CSV file:**
 - Remove from Net2: ☒
 - Bar this user and move him/her to a separate department: ☐
- Access level handling:**
 - Allow manual modification: ☐
- Department handling:**
 - Allow manual modification: ☐
- Temporary Access level handling:**
 - Allow manual modification: ☐
- License plate sharing:**
 - A license plate may be shared by multiple users: ☐
- Default values for unmapped boolean fields:**
 - Alarm user: True ☐ False ☒
 - Anti-passback user: True ☐ False ☒
- Safety setting:**
 - Maximum number of users that may be deleted while processing a CSV file: 20 (Set to -1 if there are no restrictions)

At the bottom of the form, there are buttons for 'Save settings' and 'Close'.

Image 21

- Handling of users that were set to 'disabled' in the CSV file;
 - By default the user will be removed from the Net2 database;
 - Optionally, the access rights of these users can be revoked and those users moved to a special department. (Image 22)
 - Optionally, this state can be ignored.
- Handling of users that are no longer present in the CSV file;
 - Apart from not having the option to ignore it, the same applies as for users that were set to 'disabled'.

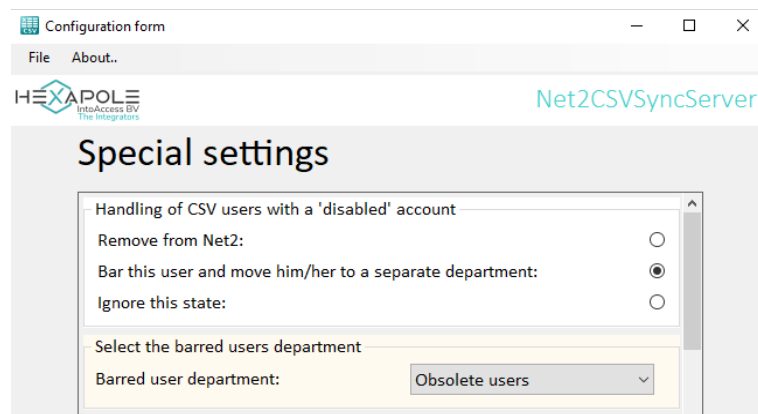


Image 22

- Access level handling;
 - Optionally, you can allow access levels to be manually changed, after being initially set on user creation. If this option is not set, the sync application will overwrite any manual changes, by applying the access level as it was determined from the last CSV file that was read.
- Department handling;
 - Optionally allow the department to be manually changed (also see access levels).
- Temporary access level handling;
 - Optionally allow setting temporary access levels. If set, the application will leave such setting untouched. Any manual changes of the (regular) access level *will* however be overwritten.
- Licence plate sharing;
 - By default, the application will remove the plate from both users, if duplicate plates are encountered. It will also try to send an error notification about it, showing the plate number and users involved.
 - If duplicate plates are allowed, the 2nd (and more) assignments will be skipped, so anyone who enters with that plate, will show up in the events as the user that actually has the plate assigned to it.
- Default values for unmapped boolean fields;
 - Wat de 'standaard waarde' zou moeten zijn voor de velden: 'Alarm gebruiker' en 'Antipassback' gebruiker;
- Safety setting
 - The maximum number of users that the application is allowed to remove, when processing a new CSV file. This is meant as a protection against possibly corrupted/truncated CSV file, that unintentionally not hold all users that should be synced to Net2. If no restriction is applied, all synced users could be wiped from Net2.



Service control

This page offers you a way to start and stop the background service.

Both the tray icon as well as textual, the current state of the service is displayed. We advise to use this (the manager) application for starting and stopping the service, although using the Windows 'services' application should also work. The tray icon of the manager will be coloured when the service is active (Image 24) and grey when it is not. (Image 23)

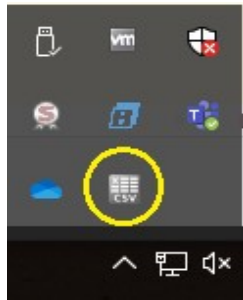


Image 23

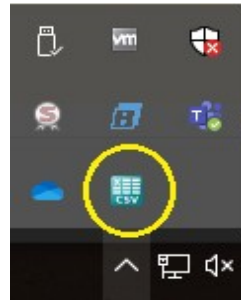


Image 24

By pressing the "Start the service" button, the manager will attempt to start the service and will show an error if it fails for some reason. On the next config page, you can view the application log file, which is helpful to determine the reason, if the server fails to start.

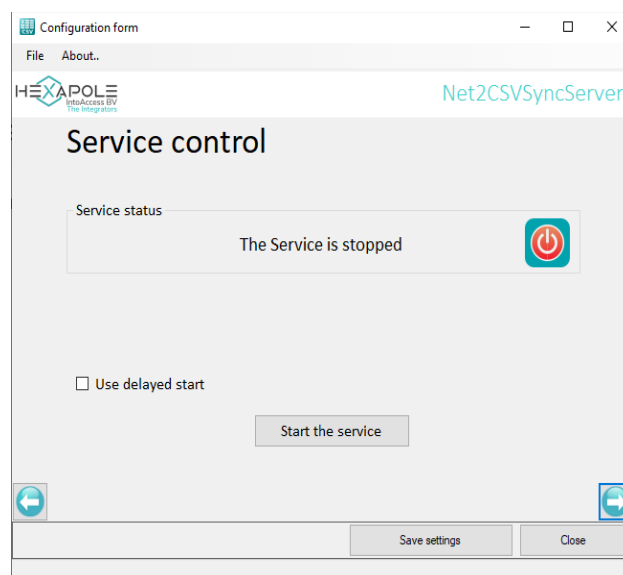


Image 25

The 'Use delayed start' option should only be checked if you want to take away the service dependency of the Net2CSVSyncServer on the Nginx service. Note that this is an advanced feature, to be used with care.



Log settings

This page offers the possibility to view the last 500 lines of the (quite detailed) application log file. You can both filter and highlight specific texts, to make analysis easier. When filtering, only those lines are displayed that contain the filter text. When highlighting, any matches with the entered text will be highlighted in yellow. Click on the filter/highlightmark button to use it. The checkbox on the button will be checked when the feature is active.

You can also let the log view refresh automatically, what can be useful while monitoring the service behaviour. The refresh cycle is 5 seconds.

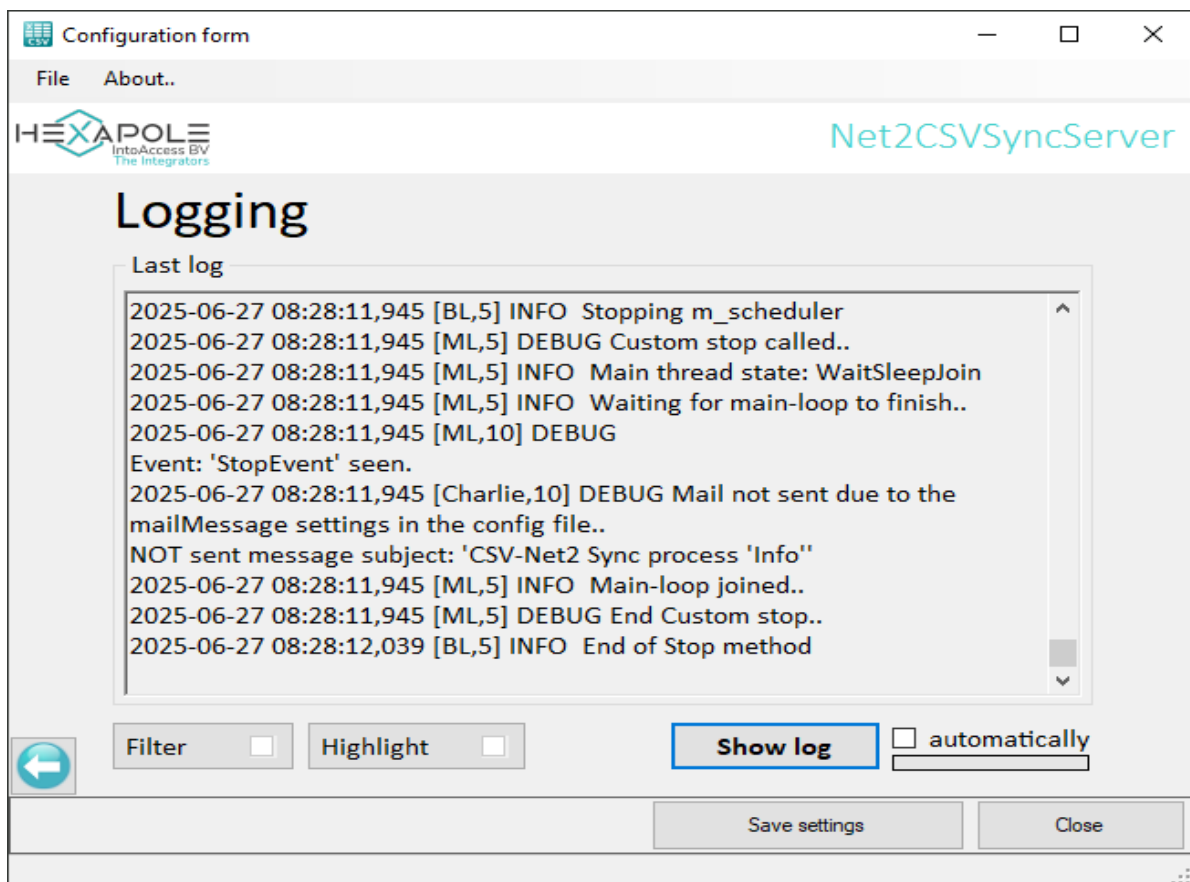


Image 26

When a problem occurs, the log file is of utmost importance to determine the cause (also for an end user).

The lines in the log file, all comply with a the following format:

- Date/time [module name, thread id] DEBUG | INFO | WARN | ERROR log message.

Keep an eye on WARN and/or ERROR messages, since these typically show the core of any problems.

The log file is located in the following local folder: C:\IntoAccess\Logging\Net2CSVSynServer\. This is a rotating file, where older versions get an index and the oldest will always be overwritten by the newest.



Manual Net2CSVSyncServer Version 2.1

