Helix 6

Installation and user manual

Version 1.5

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Preface

This user manual is designed for the management and proper use of Helix-6 by Vaxtor.

About this manual

This manual is intended for administrators and users of the Vaxtor Helix-6 application and is applicable to Version 1.5. It covers the installation, configuration and operation aspects of Helix-6.

The most recent version of this document is available at www.vaxtor.com.

Before using Helix-6 it is recommended that you read through the entire manual at least once.

Section 9 of this manual explains in detail the different configurations that can be used as a starting point for more complex scenarios.

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1 Table of contents

1 Table of contents 3
2 Introduction 5
2.1 Minimum PC Requirements 7
2.2 Database requirements: 7
3 Software installation 8
4 The Application 9
4.1 Basic Configuration 9
4.2 Login 9
4.3 Helix-6 Application Layout 11
4.4 How to configure your personal view 13
5 License plates 14
5.1 License plate details 15
5.2 Search Plates 16
5.2.1 Search criteria dialog 16
5.2.2 Search Filters 18
5.3 Real-time view 19
5.4 Download Plates 19
6 Black and White Lists 22
6.1 LISTS TAB 22
6.1.1 Add a new list 23
6.1.2 Delete a list 24
6.2 Import List 25
6.2.1 File Format 25
6.2.2 Import a Plate List from a CSV file 25
6.3 Plate list items 27
6.3.1 Search Plate list items 28
6.3.1.1 Search criteria 28
6.3.2 Add a license plate to a list 29
6.3.3 Edit Plate list item 30
6.3.4 Delete a Plate list item 30
6.3.5 Export all Plates in Lists 31
7 ACTUATORS 32
7.1 Add a new Actuator 32
8 AUTHORIZATIONS 34
8.1 Create a plate authorization 34
8.2 Delete an Authorization 35

9 CONFIGURATION 36
9.1 ZONES 36
9.1.1 Create a zone 37
9.1.2 Delete a zone 37
9.2 Cameras 38
9.2.1 Add a camera 38
9.2.2 Delete a camera 39
9.3 Schedule 40
9.3.1 Create a schedule 40
9.3.2 Linking Time frames to a Schedule 41
9.3.3 Linking Regular expressions to a Schedule 42
9.3.4 Delete a Schedule 44
9.4 Sections and Average Speed Alerts 45
9.4.1 Create section 45
9.4.2 Delete a section 46
9.5 Capacity (Vehicle Count) 46
9.5.1 Create a Capacity / Count Area 46
9.5.2 Delete a section 47
10 SETTINGS 48
10.1 Settings Tab 48
10.1.1 Configuration of Alerts 48
10.1.2 Configuration of Data storage 50
10.1.3 Configuration of Server 50
10.1.4 Configuration of LDAP 51
10.1.5 Configuration of Email server 51
10.1.6 Test Email server connection 52
10.2 Users Tab 53
10.2.1 Create new user 53
10.2.2 Delete a user 54
10.3 Audit Tab 55
10.3.1 Search Audit records 55
11 REST API 57
11.1 Definitions 57
11.2 Helix 6 REST API Complete Definition 57
12 Configuration Examples 58
12.1 Configuration based on a schedule 58
12.2 Configuration based on a zone 63
12.3 Configuring different zones inheriting programming 66

13 APPENDIX 67

2 Introduction

Helix-6 by Vaxtor is a Back Office application which can centrally manage ANPR reads transmitted from ALPR cameras performing access control, parking or traffic applications in any environment. Once setup, ALPR reads will be received and processed (e.g. checking for White lIsts, generating alarms, controlling barriers etc.)
This manual allows the user to explore the full functionality of Helix-6.

Helix-6 can be used with the Vaxtor license plate reading products:

- VaxALPR On Camera
- VaxALPR *On Board*
- VaxALPR PC

... and with the Vaxtor traffic monitoring products:

- RedLight
- IllegalTurns

Helix-6 provides total control of vehicle traffic not only by recording vehicle movements through established control points, but also by automating access to restricted areas, issuing alerts for selected vehicles (using blacklists), generating reports with images and acting as the main application for real-time monitoring and control of a vehicles across a site.

From the most basic management of a private car park to the control of traffic across a city, Helix-6 facilitates enforcement management, access control to restricted areas, average speed control of a vehicle between two points and average speed data transmission to LED Signs, etc.

New API Application Program Interface

Helix-6 has a new Application Program Interface (API) with which applications and third-party systems can obtain information in a simple way by receiving events, queries to databases and queries to devices etc.

New SQL Platform

Helix-6 now uses Postgres as the database manager providing enterprise class performance with many new functions. PostgreSQL is a powerful, open source object-relational database system that uses the SQL language to store data.

Dynamic and real-time information updating

The new communication architecture between modules and the technology of the software components used allows Helix-6 to automatically and instantly display new plate reads in addition to updating any user screen layout modifications (made by another user) to any part of

the system. Helix-6 extends its capabilities to the end user, being both a management and a real-time monitoring tool.

Multi-platform and responsive user interface

Helix-6 comes with a modern user interface making it possible to use it from any device as the Graphic User Interface (GUI) automatically adapts to the equipment from which it is being used, be it a PC, tablet or smartphone.

Enhanced permissions management

The management of user permissions have also been improved. This feature is now completely transparent to the user who will only see the information relevant for him or her.

Seamless integration of 'VaxALPR On Camera'

Helix-6 incorporates the configuration and setup functions of 'VaxALPR On Camera' that previously could only be managed from the camera interface or in the configuration menu of each camera. It is now possible to manage how the on-board software saves the images directly from Helix-6.

In summary

Helix-6 offers customers a powerful tool to manage the Vaxtor license plate reading systems, maintaining and improving the existing functionality with a comprehensive interface compatible with almost any device. The new optimized architecture improves performance and allows future expansion at the same time interacting with third party systems and applications.

2.1 Minimum PC Requirements

- Windows 7
- 32 bits (x86) o 64 bits (x64) processor at 1 GHz or higher
- 4 GB RAM
- 16GB (32-bit) or 20GB (64-bit) of hard disk space available.
- Microsoft .NET Framework 4.5.2 or higher

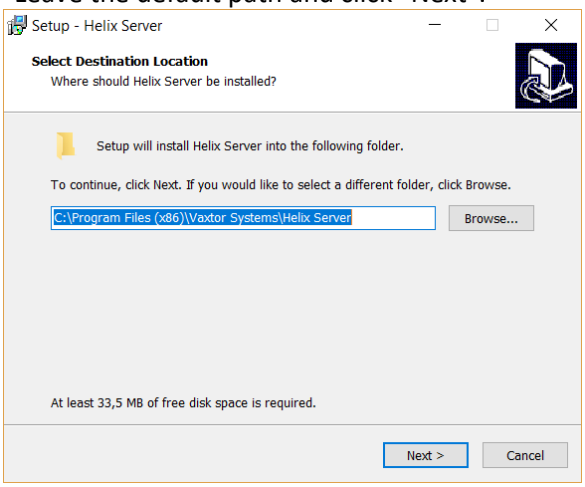
2.2 Database requirements:

Postgres is the included database manager and does not need any additional components.

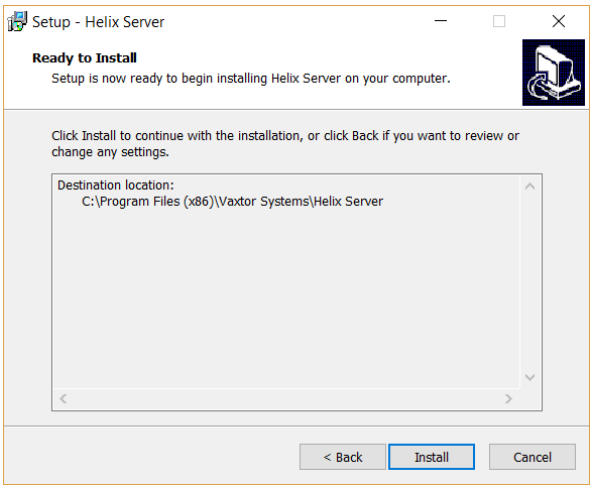
PostgreSQL is a powerful, open source object-relational database system that uses the SQL language to store data.

3 Software installation

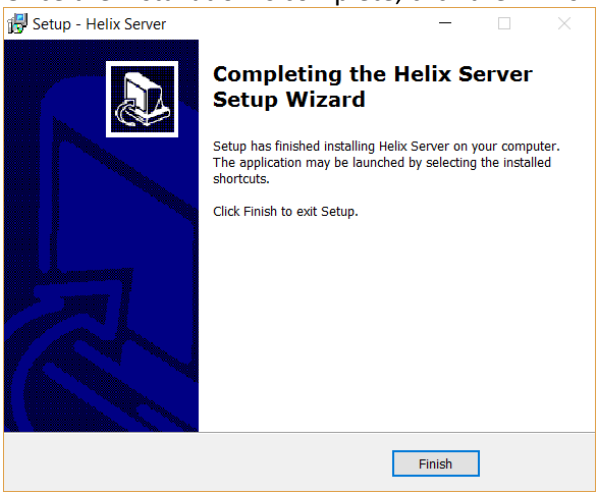
- Run **HelixServer-setup.exe** as an administrator**.** In the first window, you will be prompted for the location where you want to install this program.
  Leave the default path and click "Next".



- In the next window of the wizard you can begin the installation by pressing the "Install" button.



- Once the installation is complete, click the "Finish" button.



- A new service called “VaxtorMNGR” will be installed and automatically started.

4 The Application

After installation, Helix-6 can be accessed by the URL http://serverip:8080/Helix6, where serverip is the IP address of the machine where Helix-6 is installed. If accessing from the same PC then this would be 127.0.0.1/8080/helix6 or localhost:8080/helix6

4.1 Basic Configuration

This configuration can be changed by editing the file config.xml stored in the directory c:\programdata\VaxtorMNGR and adding to it a new Helix-6 Port tag.
Example (using SQLite database):

```
<Config>
 <SslPort>9898</SslPort>
 <BindAddress>*</BindAddress>
 <EnableSsl>False</EnableSsl>
 <ApiKey>29bb7fac5eed46edb4fb2833db89ecec</ApiKey>
 <AuthenticationMethod>Forms</AuthenticationMethod>
 <Helix6Port>30000</Helix6Port>
</Config>
```

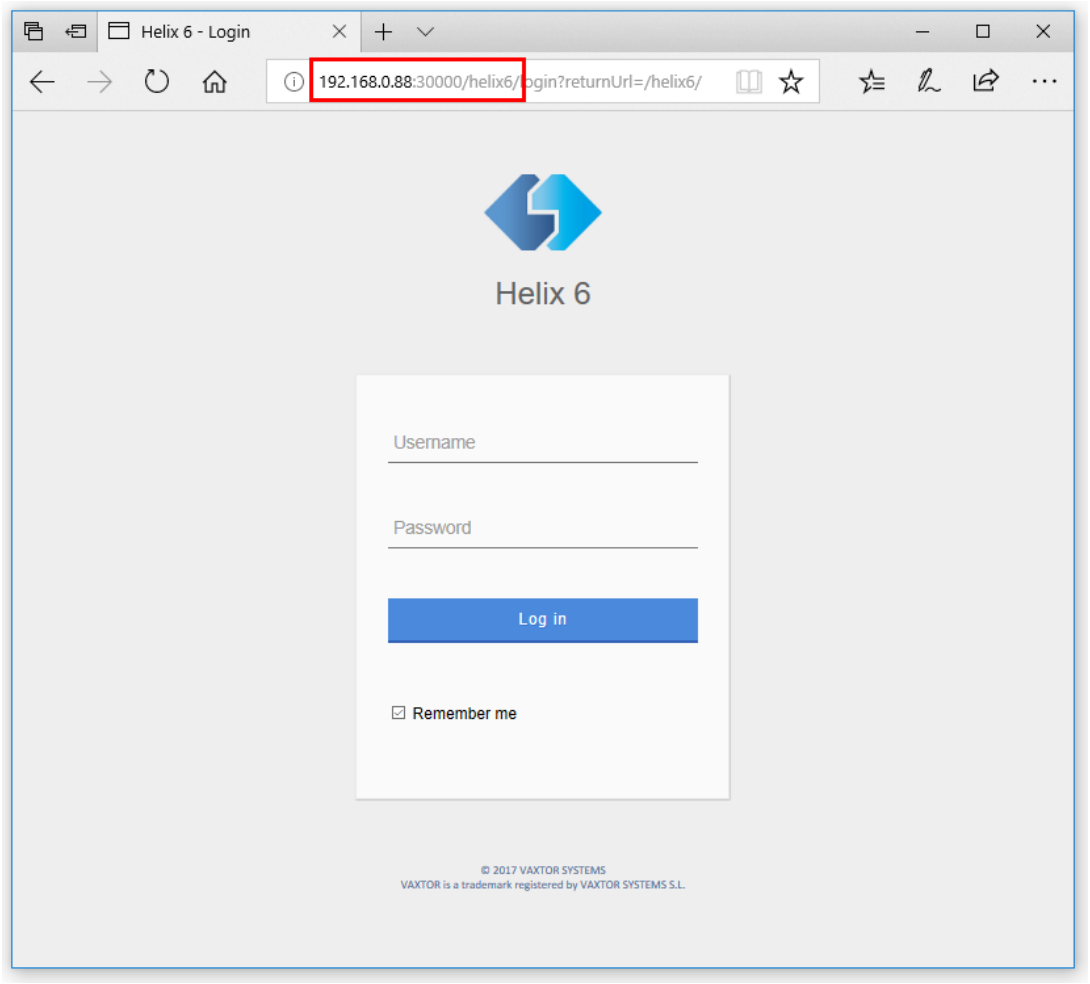
Valid tags and values for config.xml file:

- **BindAddress** (m): default value "*"
- **Helix6BaseUrl** (op): default value: /Helix-6
- **Helix6Port** (op): default value: 8080
- **Helix6Environment** (op): default value: Vaxtor
- **Helix6DB** (op): valid values SQLserver|Postgres|SQLite. Default value: SQLite
  - **DBAdminUser** (op): default value ""
  - **DBAdminPassword** (op): default value ""
  - **Helix6DB** equal to Postgres:
    - **PostgresDBName** (m): Example: helix
    - **PostgresDBHost** (m): Example: 127.0.0.1
    - **PostgresDBUser** (m): Example: admin
    - **PostgresDBPassword** (m): Example: vaxtor
  - **Helix6DB** equal to sqlserver:
    - **SQLServerDataSource** (m): Example: 192.168.0.236
    - **SQLServerUserId** (m): Example: admin
    - **SQLServerPassword** (m): Example: Vaxtor300
    - **SQLServerInitialCatalog** (m): Example: Helix-6
    - **SQLServerIntegratedSecurity** (m): Default value: false
  - **Helix6DB** equal to sqlite does not have any additional configuration parameters.
- **ApiKey** (m): Valid API key.
- **EnableSsl** (m): default value: False
  - If **EnableSsl** is True, review this article: https://docs.microsoft.com/en-us/dotnet/framework/wcf/feature-details/how-to-configure-a-port-with-an-ssl-certificate
  - And fill **SslCertHash** (m) and **SslPort** (m)
- **AuthenticationMethod** (m): Valid values none|Basic|Forms Default value: Forms
- **LogLevel** (op): Valid values: Info | Debug | Trace. Default value Info

**** Remember that you must restart the service to apply any changes.***

4.2 Login

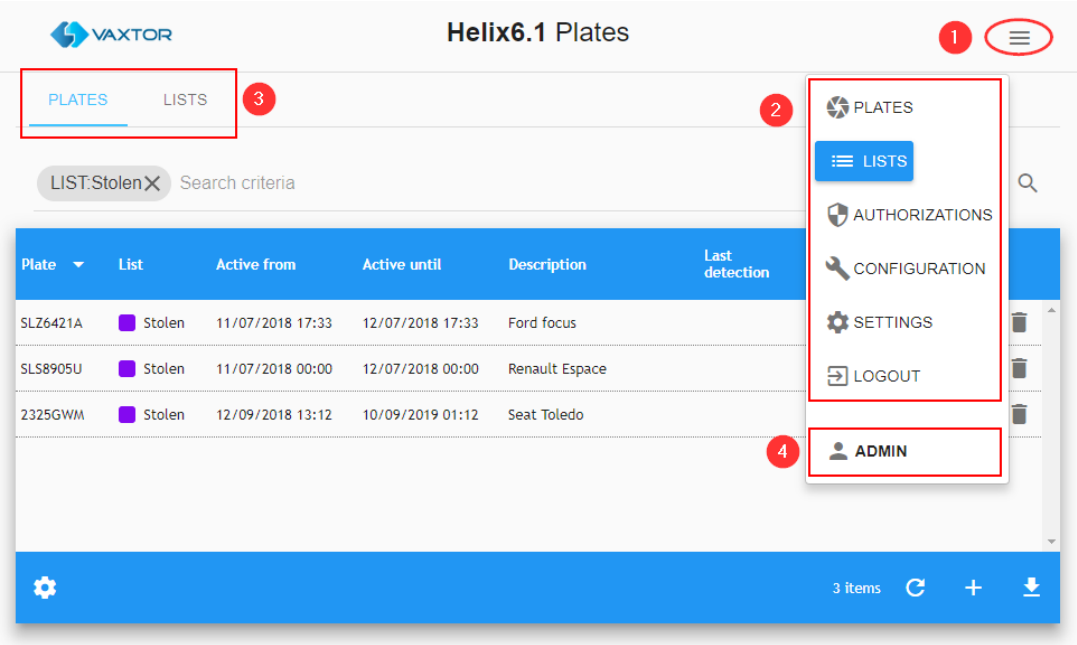
The Helix-6 login screen will be displayed in the browser, asking for the user name and password:



Helix-6 creates the default user “admin” with password “admin” when no other users have been added to the system.

If you wish, you can select the "Remember me" option so that the system saves your credentials for one week.

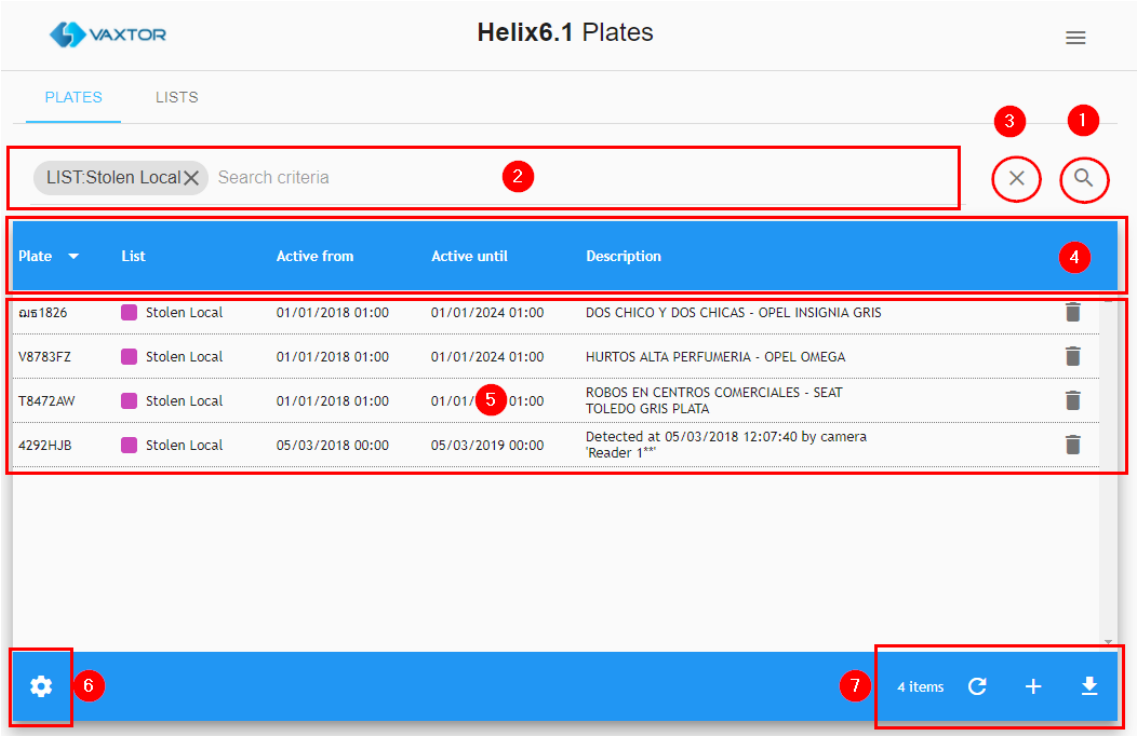
4.3 Helix-6 Application Layout



The application layout is made up of the following elements:

1. Menu button, clicking this button to access the Main Menu.
2. Main Menu. Here you can access the following options:
   - **PLATES**
   - **LISTS**
   - **ACTUATORS** (if added)
   - **AUTHORIZATIONS**
   - **CONFIGURATION**
   - **SETTINGS**
   - **LOGOUT**
3. Secondary Menu. This allows access to further options for each Main Menu option:
   - **LISTS**
     - Plates
     - List
   - **ACTUATORS**
     - Actuators
     - Actuator LInks
   - **CONFIGURATION**
     - Zones
     - Cameras
     - Schedule
     - Sections
     - Capacity
   - **SETTINGS**
     - Settings
     - Users
     - Audit
4. The Current user button – default **ADMIN.**

NOTE: All of the above will be explained in detail on the following pages.



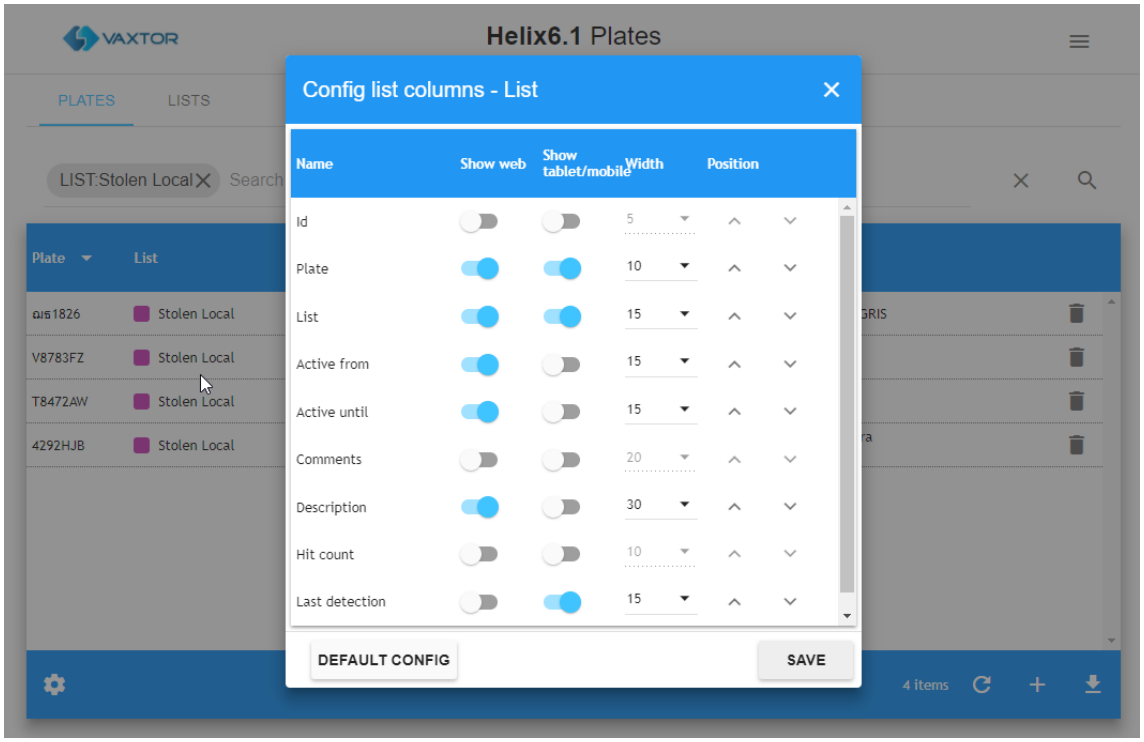
1. Search button. This button opens the Search dialogue box.
2. Search Filters area including a clear search options button × and an advanced search button 🔍.
   NOTE: Search options are available for PLATES, LIST-Plates and SETTINGS-Audits.
3. The Clear search criteria button.
4. Headers.
5. Data list area.
6. List view configuration button (see 'How to configure your personal view' below)
7. List tools area. This could include:

   - An items counter 4 items,
   - Reload button ↻,
   - Add item + button
   - Download button ⬇

4.4 How to configure your personal view

Helix-6 can be configuredhe to show only the data that the user wants to see.

To do this, in most tables you will see a settings icon at the bottom left of the screen which allows you to configure the fields that you want display. Click on the icon and a pop-up window will appear as shown below.



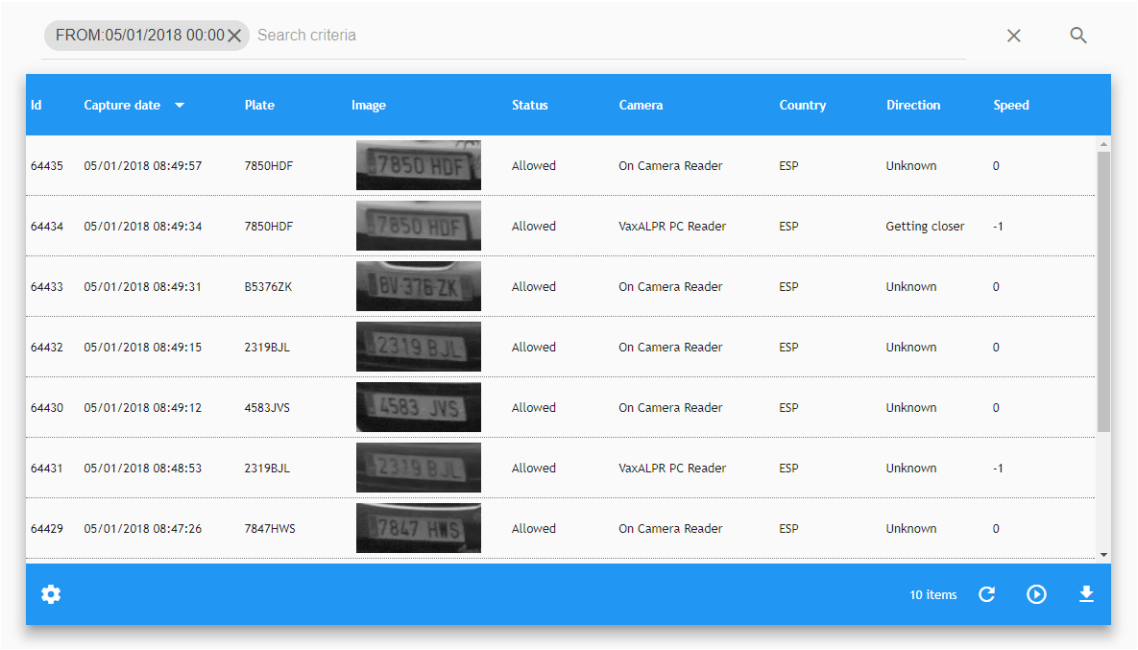
The user can simply enable or disable any of fields as required by using the sliders. These can be used for the PC web environment or when being accessed from tablet or mobile devices.

You can adjust the width of each column and modify its position on the grid.

At the bottom of the pop-up window you can restore the default values by clicking on the "DEFAULT CONFIG" button or save your new configuration by pressing the "SAVE" button.

5 License plates

Clicking ‘PLATES’ will display a list of current plates recently received.



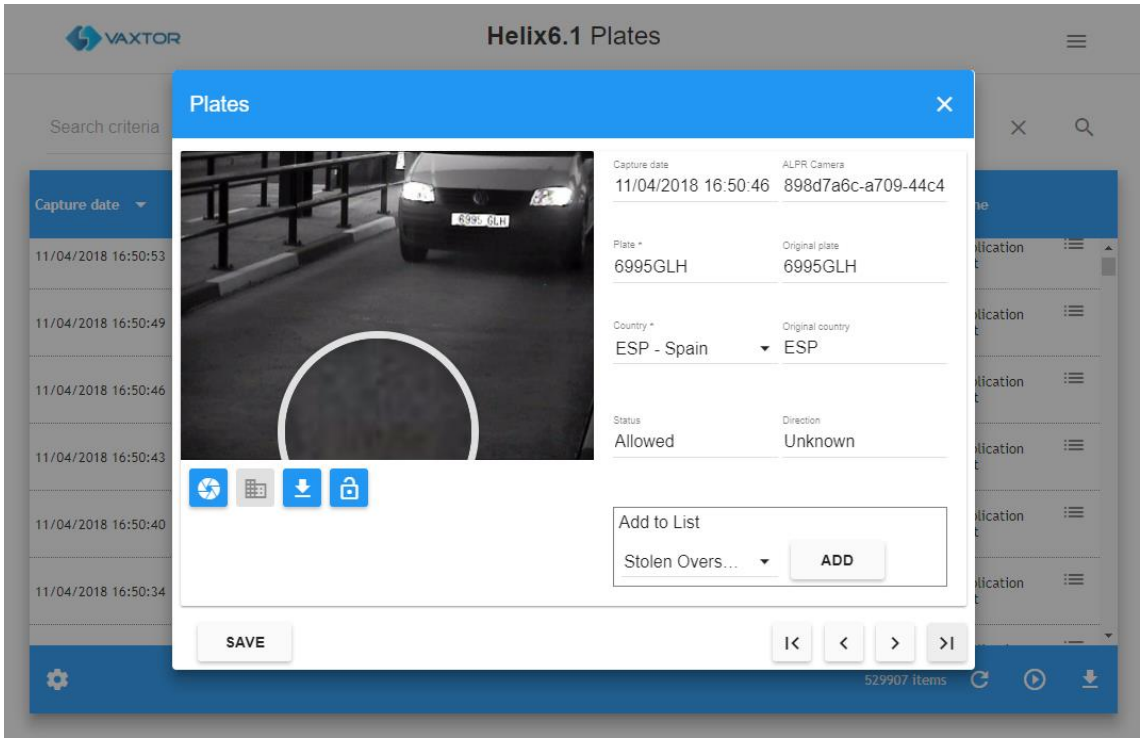
Note: that any new plates received will NOT be displayed until you press the Play icon, bottom right. See section 5.3.

This is where the plate readings that the VaxALPR recognition systems detect will appear showing the following default fields thus:

- **Capture Date:** Date and time that the plate was captures.
- **Plate:** The ASCII interpretation of the License plate.
- **Image**: The image of the license plate. (The ‘Plate Patch’)
- **Status:** This indicates whether the vehicle is "Authorized", "Pending", "Confirmed" or "Cancelled". (These states are discussed later in the manual.)
- **Camera:** The name of camera that detected the license plate.
- **Country:** Indicates the country of origin of the recognized plate (if known).
- **Direction:** Indicates the direction the vehicle was travelling. This can be: “Getting closer”, “Getting farther" or “Unknown”.
- **Speed:** This field displays the instant speed or the average speed of the detected vehicle. If both measurements are available, the “instant speed” will be used (if known and configured).

5.1 License plate details

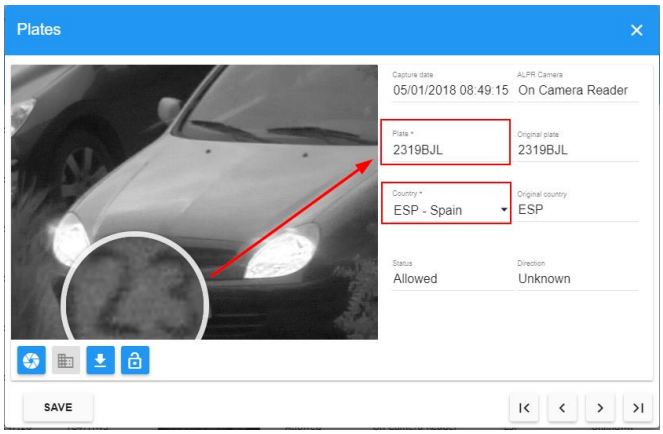
If you click on any of the plates in the list, a pop-up window will appear with the associated meta data of the reading including the source image and a small zoom tool to view the image in detail.



In this pop-up window you can make changes or correct the fields "Plate" and "Original Country".
Click the "Save" button that appears in the bottom left to store the change.

In the lower right area of the pop-up there are navigation buttons to move through the different records without leaving the pop-up window.

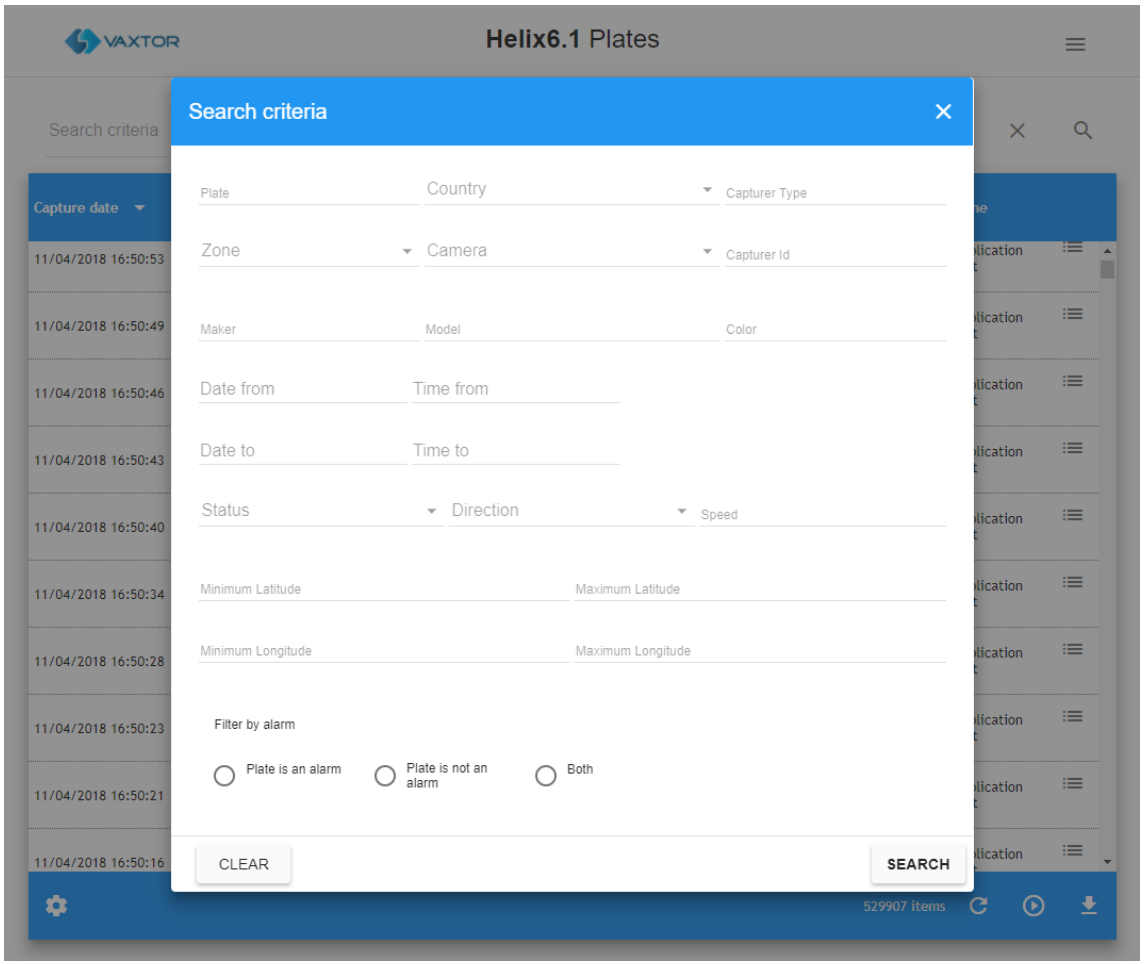
To use the zoom tool simply move the cursor over the image and the image will automatically zoom in on the area you are focussing on.



5.2 Search Plates

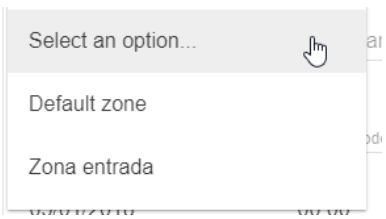
5.2.1 Search criteria dialog

In the upper right corner of the table there is a small magnifying glass icon . When clicked, a popup window appears where you select from the following search filters:

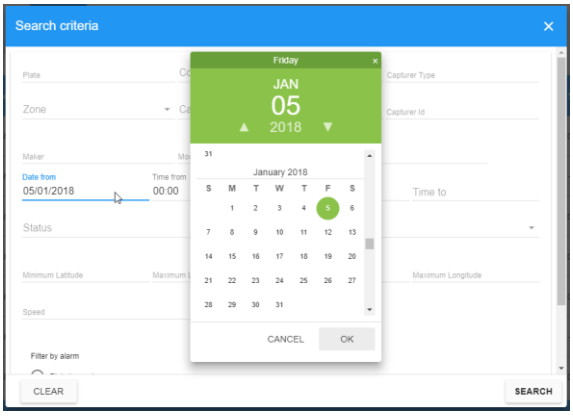


- **Plate**: Here you can search through all the plates using the wildcards "*" and "?" to refine the search *(you can also use _ in place of ? and % in place of *):*
  - The "*" symbol replaces any number of characters (including no characters).
  - The "_" symbol replaces a single character in the search.

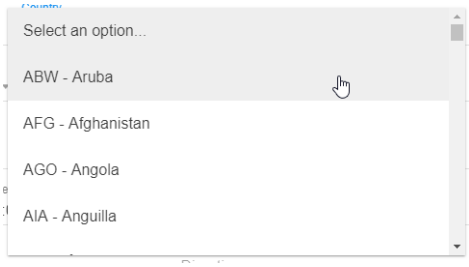
- **Zone**: Filter the results by zone. Cameras can be allocated to a zone – e.g. a car park with several entrances so a search would produce a list of vehicles currently in that zone.



- **Date from**: In this field, you can search from any date simply by clicking in the field. A pop-up window appears where you can select the start date of the search.

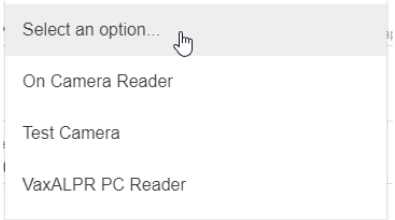


- **Time from**: Click here to enter the exact start time of the search. Use the 24hour format. E.g. 08:00
- **Date to**: As in the previous field, you can search for plates up to a specific date again by clicking in the field. The pop-up window appears where you can select the “To” date and then press "OK".
- **Time to**: Click here to enter the exact end time of the search. Use the 24hour format. E.g. 23:59
- **Country:** Filter the results by the country of origin of the plate.

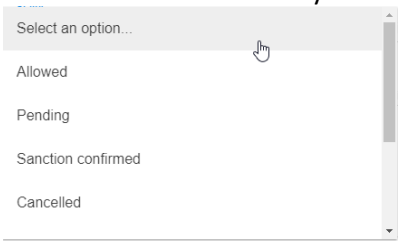


- **Make, Model and Colour:** These are only available with the optional MMC add-on which attempts to analyse images and report the Make, Model & Colour.

- **Camera**: Filter the results by a particular camera.



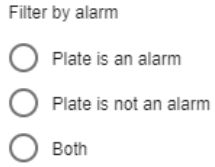
- **Status**: Filter the results by the selected vehicle status.



- **Direction**: Filter the results by the selected direction.

- **Speed**: Available as an add-on. Only vehicles moving faster than the selected speed will be shown.

- **Filter by alarm**: Only the plates that have generated an alarm will be shown.



5.2.2 Search Filters

Helix-6 includes a fast way to use filters by adding your own search criteria as a text string. The PLATES page includes a search filter bar in the Search area, where you can add or remove search filters:

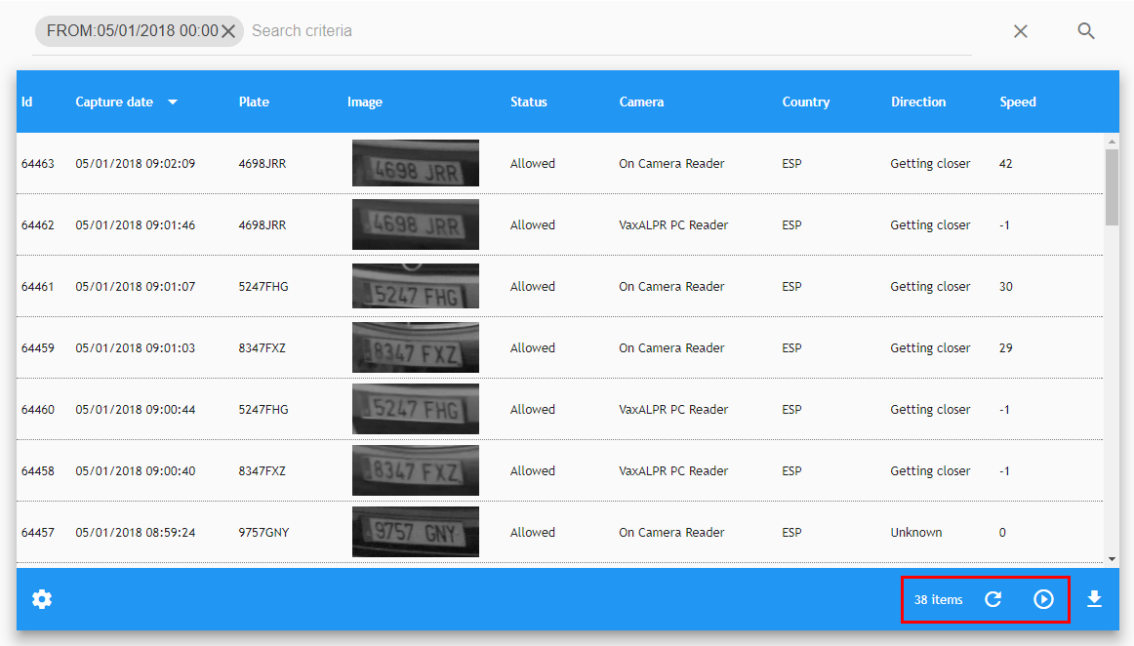
Search filter syntax is: Key:FilterValue, where:

Field	Filterkey	FilterValue
CAMERA	CAMERA	Camera ID or camera name
COUNTRY	COUNTRY	Country code (see combo box)
DIRECTION	DIR	*unknown, gettingCloser* or *gettingFarther*
DIR	DIR	
PLATE	PLATE	p.e. *M4616WZ*
STATUS	STATUS	*ok, pending, confirmed, cancelled, exported, prescribed, noAuth* or *sanctionPending*
ZONE	ZONE	Zone ID or Zone name
CAPTURER ID	CAPTURERID	Capturer ID
	CAPID	
CAPTURERTYPE	CAPTURERTYPE	Capturer Type
	CAPTYPE	
ALARM	ALARM	*true* or *false*
MAX LATITUDE	MAXLATITUDE	Max latitude (double)
	MAXLAT	
MIN LATITUDE	MINLATITUDE	Min latitude (double)
	MINLAT	
MAXLONGITUDE	MAXLONGITUDE	Max longitude (double)
	MAXLON	
MIN LONGITUDE	MINLONGITUDE	Min longitude (double)
	MINLONG	
DATE FROM	FROM	DateTime format dd/MM/yyyy hh:mm:ss, example: *08/01/2018 10:22:29*
	DATEFROM	
DATE TO	TO	DateTime format dd/MM/yyyy hh:mm:ss, example: *08/01/2018 10:22:29*
	DATETO	
SPEED	SPEED	Speed (integer)
VEHICLEMAKER	VEHICLEMAKER	Vehicle marker (text)
VEHICLEMODEL	VEHICLEMODEL	Vehicle model (text)
VEHICLECOLOR	VEHICLECOLOR	Vehicle color (text)

Note: To clear the search criteria use button located at right of the Filter bar.

5.3 Real-time view

Click the “Play” button (bottom right of the screen) to see plate reads as they arrive in real time.



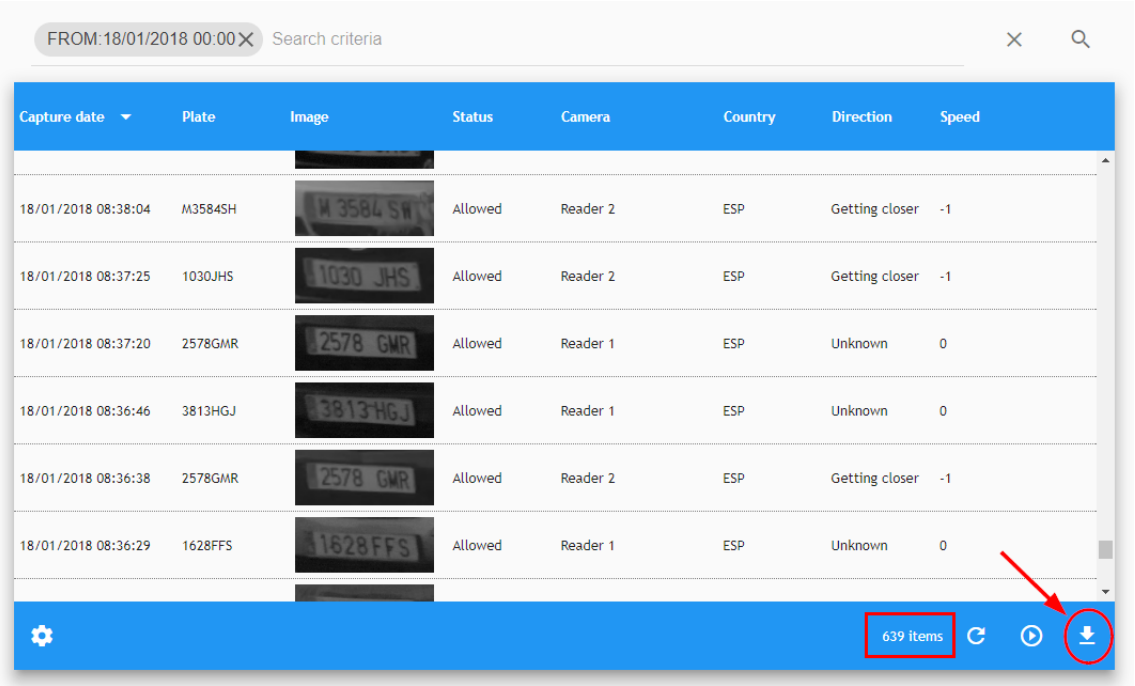
When this option is enabled all the plate reads received from the ALPR readers will be displayed immediately in the main screen, the most recent at the top.

Note: This only works if the current user has been authorized.
Do this by clicking CONFIGURATION then select the ZONES main Tab. Click on the appropriate zone and select which users receive real time events generated by it. Do this by selecting the appropriate user from the users list and double click on the user to move it across to the right-hand box (assigned users). This user can now see view real-time information.

The reason this is not set as a default is there may be a massive amount of information being received from many readers which would overload the system.

5.4 Download Plates

To download a Plate list, click the *download* button at the bottom-right of the plate list page:



Before downloading consider the number of plates in your current search, in this case nearly 14,000. Keep this to a reasonable number by using more Search Filters to avoid a massive download that could lock your system up.

Two files are downloaded: a .csv file containing a list of plates from the search results and a corresponding .zip file containing all of the images of the vehicles. The files appear at the bottom of the screen and are downloaded to tyour Windows download directory.

The Downloaded file is a CSV format file (with **;** as a separator).
It includes a header and the following columns:

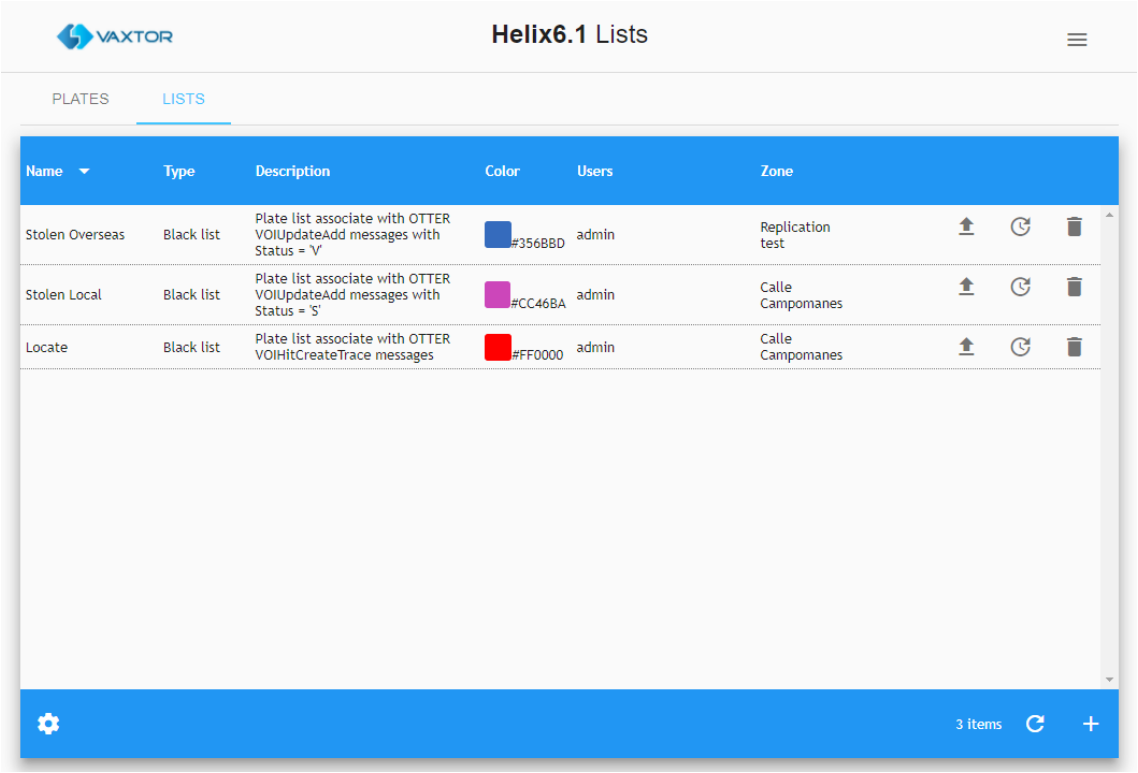
Field	*Type*	*Example*
CameraId	Integer($int32)	1
CameraName	String	“Camera1”
Latitude	Number($double)	12.1234
Longitude	Number($double)	12.1234
PlateNumber	String	“M4616WZ”
OriginalPlateNumber	String	“M4616WZ”
Country	String	“ESP”
OriginalCountry	String	“ESP”
TakenOn	DateTime as String	“2017-12-19T11:38:33.12Z”
Status	“OK” | “Pending” | “Confirmed” | “Cancelled” | “Exported” | “Prescribed” | “NoAuth” | “SanctionPending”	“ok”
Direction	“unknown” | “gettingCloser” | “gettingFarther”	“unknown”
Speed	Integer($int32)	0
Confidence	Integer($int32)	89
OcrImageId	Integer($int32)	12301
EnvImageIds	List of Integer($int32)	[12300, 12302, 12303]
Signaled	Boolean	false
AvgDigitsHeight	Integer($int32)	16
MultiplateRate	Integer($int32)	2
ProcessingTimeOCR	Number($double)	72.817330121994019
CapturerId	Integer($int32)	2
CaptuerType	String	“”
IsAlarm	Boolean	false
VehicleMaker	String	“BMW”
VehicleModel	String	“M5”
VehicleColor	String	“UNKNOWN”
Id	Integer($int32)	1
ResourceName	String	“plate”

6 Black and White Lists

Selecting LISTS from the Main dropdown Menu allows the user to create multiple whitelists or blacklists. Vehicles (plates) that appear on a whitelist are always authorized to enter an associated zone. Vehicles on a blacklist will create an alarm in the system if the plate is detected in an associated zone. When a zone is a parent of another zone, the lists are always inherited.

6.1 LISTS TAB

This area shows all lists created. You can add, edit or delete any of them.



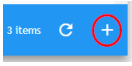
In the main window of this menu you can see the name of the list, the type of list, description, a colour marker code of the list, the user and zone associated with it and also the owner. (See below for more details). There are also icons to import the list from a file, to renew the from-to dates of the list and finally an icon to delete the list.

Clicking on any element of the list will open a sub-menu.

Note that the Columns displayed can be configured by pressing the Settings icon (bottom left)

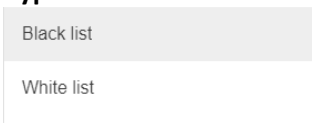
6.1.1 Add a new list

At the bottom right of the screen there is a "+" button to add a new list to the system.



This opens a pop-up window with various options listed below:

- **Name**: Insert a name for the list.
- **Description**: Insert a description of the list.
- **Type**: Set the list to be a blacklist or whitelist.

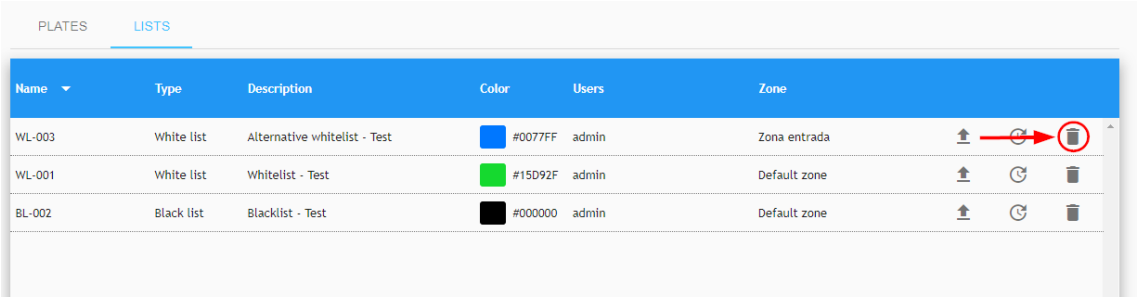


- **Colour**: Choose a reference color code for the new list. Once you click on this option you will see a colour palette where you can select the colour you want by using the cursor, the field will automatically display the associated hexadecimal colour code.

- **Users**: Defines the user who will receive events linked to the list.
- **Zone**: Insert the zone associated to the list.
- **Owner**: This field is automatically filled with the user who created the list.

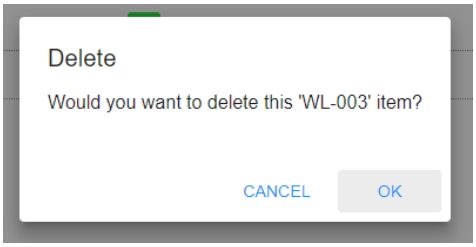
6.1.2 Delete a list

To delete a list, simply click on the trashcan icon at the right of the list.



Once this button is pressed, a confirmation window will appear asking you if you want to delete the list.

If you are sure, press the "OK" button and the list will then be deleted, otherwise Cancel.



6.2 Import List

6.2.1 File Format

Helix-6 allows to you import List records using standard CSV files.

The format is defined as follows:

Field	*Type*	*Example*
plate (required)	String	"0933BFF"
activefrom (required)	DateTime as String	"2017-01-01T00:00:00.00Z"
activeuntil (required)	DateTime as String	"2017-12-31T23:59:59.00Z"
Comments	String	"Comments"
Description	String	"Description"
Hitcount	Integer($int32)	5
lastDetection	DateTime as String	"2017-12-19T11:38:33.12Z"

So, for example, a file might contain the following data:

plate;activefrom;activeuntil;comments;description
ABC123;2019-01-01T00:00:00.00Z;2020-01-01T00:00:00.00Z;Comment 1;description 1
XYZ234;2019-01-01T00:00:00.00Z;2020-01-01T00:00:00.00Z;Comment 2;description 1
LAW345;2019-01-01T00:00:00.00Z;2020-01-01T00:00:00.00Z;Comment 3;description 1

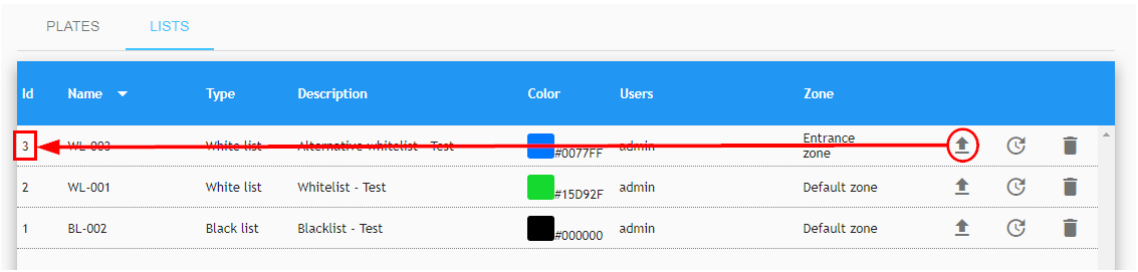
Important!

- The CSV file must include a header with column names.
- The CSV file uses a semicolon (**;**) as a column field separator.
- The CSV header must include **plate**, **activefrom, activeuntil, Comments** and **Description** columns.
- DateTime fields are UTC time in ISO-8601 format - encapsulated in the String format: "YYYY-MM-DDTHH:MI:SS.SSZ" with HH in 24h format.

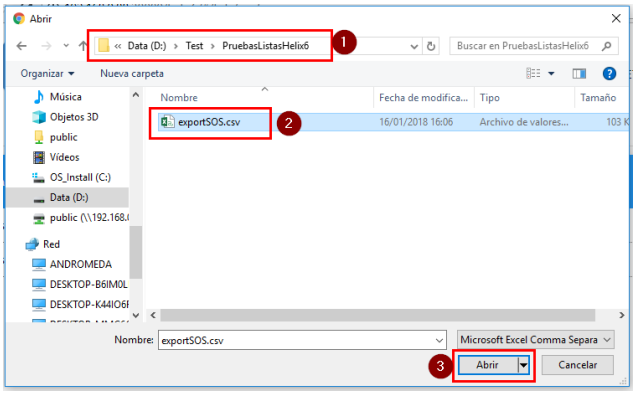
Note: Fields **hitCount** and **lastDetection** help when exporting or importing lists from different Helix-6 installations.

6.2.2 Import a Plate List from a CSV file

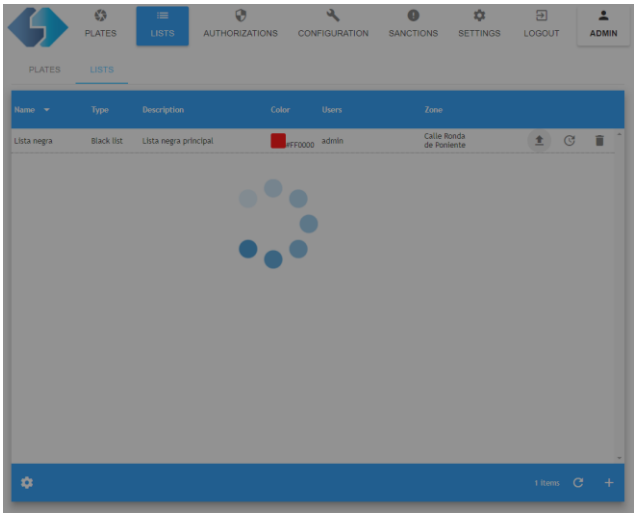
To import a plate list from a CSV file, simple click the import icon next to any List entry (see below):



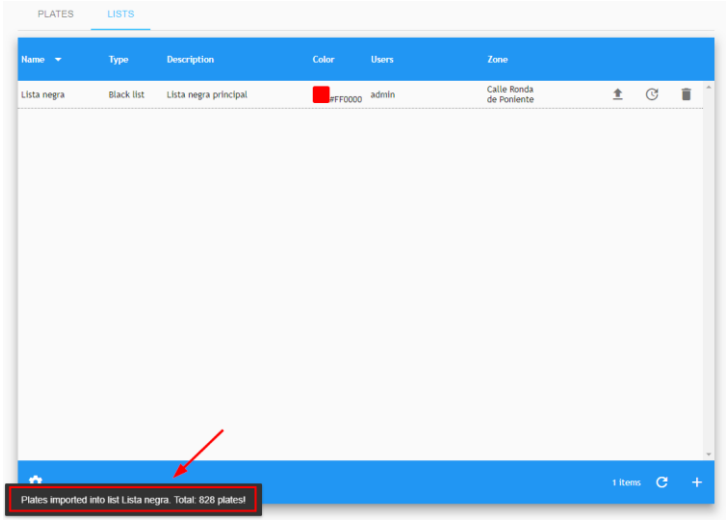
A selection file window is opened:



Select a *folder and file* and click *Open*. File opening times will vary depending on the size of the files.



Finally, a message is displayed showing how many Plates have been imported:

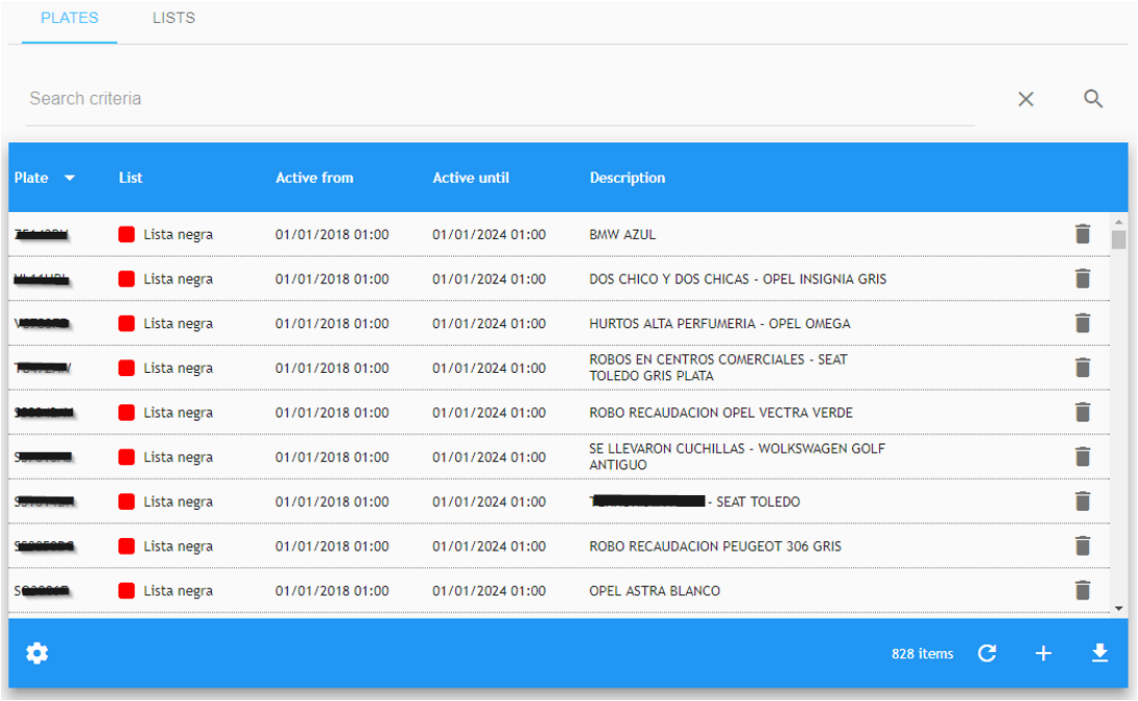


You can then review the imported data in the List list items screen (see next section)

6.3 Plate list items

In LISTS, PLATES, you are able to see all of the individual plates and their associated lists that have been setup.

You can see each list's details, when it was added and its validity period, the vehicle plate, how many times it has been detected in the validity period, the last sighting, the description of the list and also a small trash can icon to delete individual plates.

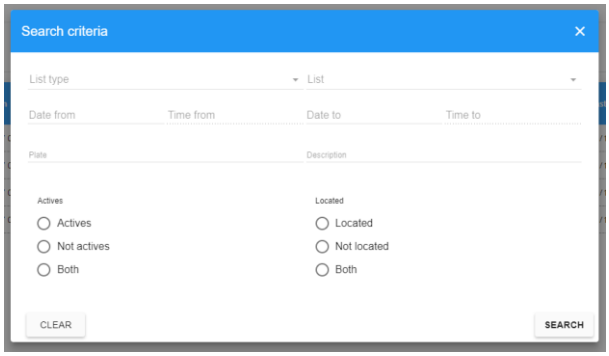


Clicking on any element of the list will open the edit menu.

6.3.1 Search Plate list items

6.3.1.1 Search criteria

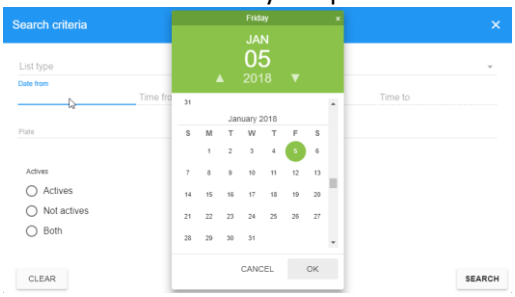
In the upper right corner of the table there is a small magnifying glass icon . If you click on it a popup window will appear where you can select from the following search filters:



- **List**: Filter the results by list (allow multiple selection).

- **List type**: This option limits the search to the selected list type. (blacklist or whitelist)

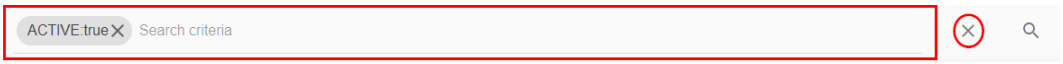
- **Date from**: Shows only the plates detected since the selected date.



- **Date until**: Shows only the plates detected up until the selected date.
- **Plates**: The registration number of a particular vehicle can be added as a search criteria. (Wildcards are allowed)
- **Description**: Filter by the description. Wildcards are allowed.
- **Active**: Show only the plates that are active, inactive or both at this moment.
- **Located**: Show only the plates that have been detected at least once, plates never detected or both.

6.3.1.2 Search Filters

Helix-6 includes a fast way to search a List by adding search criteria as a text string. To enable this, each Plates List page includes a Search Filter where Search Filters can be added or removed:

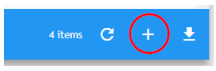


Search filter syntax is: Key:FilterValue, where:

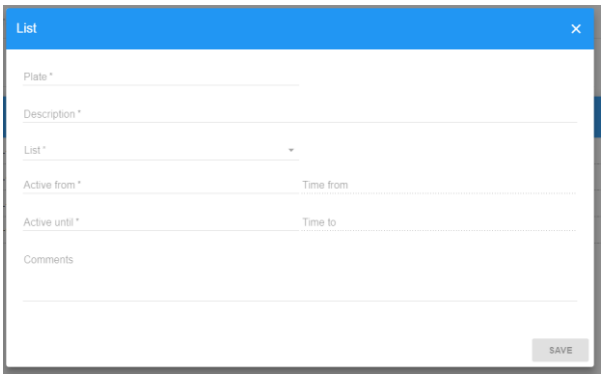
Field	Filterkey	FilterValue
LIST IDS	LISTIDS	List ID or List name, separated with comma (,)
	LIST	
TYPE	TYPE	*blacklist* or *whitelist*
ACTIVE	ACTIVE	*true* or *false*
PLATE	PLATE	p.e. *M4616WZ*
LOCATED	LOCATED	*true* or *false*
DATE FROM	FROM	DateTime format dd/MM/yyyy hh:mm:ss, example: *08/01/2018 10:22:29*
	DATEFROM	
DATE TO	TO	DateTime format dd/MM/yyyy hh:mm:ss, example: *08/01/2018 10:22:29*
	DATETO	
DESCRIPTION	DESCRIPTION	Text included in Description attribute.
	DESC	

Note: To clear the search criteria use button located at right of the filter bar.

6.3.2 Add a license plate to a list



Click on the "+" symbol located at the bottom right corner of the screen



Complete the following fields:

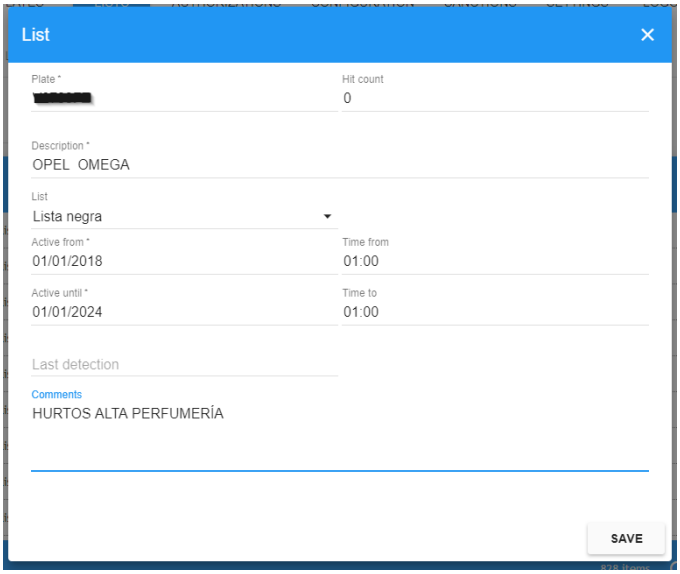
- **Plate**: The license plate to add to the list.
- **Description**: Add a description in this field.
- **List**: Select a list to add the plate to.
- **Active from:** Starting date of the plate in the list. (validity period)
- **Active to:** Finish date of the plate in the list.
- **Comments**: Freeform text comment to be associated with the plate.

All fields in this pop-up menu marked with an asterisk are required. To add a record, press the "Save" button. The window will close automatically and the record will be added.

6.3.3 Edit Plate list item

To edit a list, simply click on the list to open it.

This pop-up window is opened:



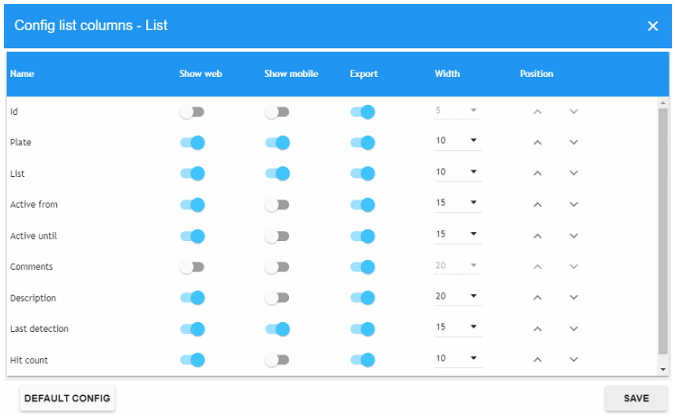
Note: For more details, review the previous section (**Add a license plate to a list**)

6.3.4 Delete a Plate list item

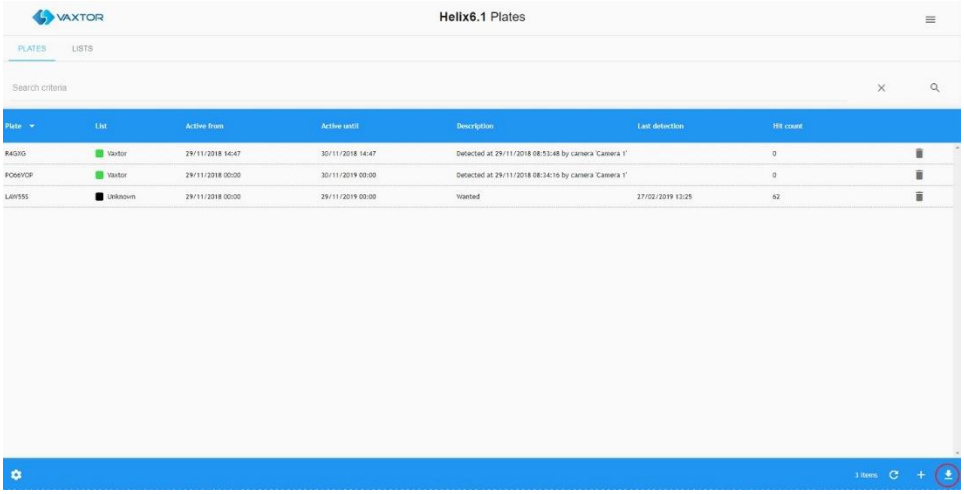
To delete a Plate list item, simply click in the *trashcan* icon associated with each list.

6.3.5 Export all Plates in Lists

To export all of the plates, first choose which fields are to be exported by pressing the Settings icon (bottom left). You will see a list of avalliable fields and as we have already seen, we can select which should be displayed on the screen, – but we can also use the 'Export' slider to add them to the .csv output file.

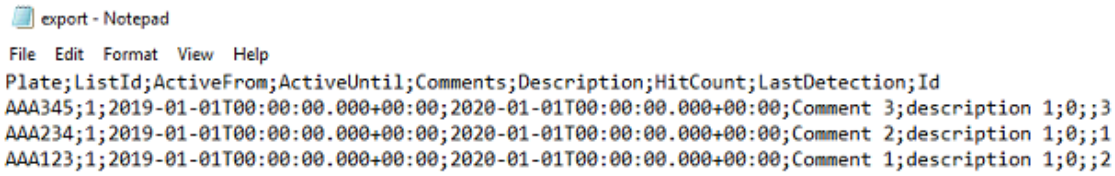


Select the CSV File Download icon (bottom right) to start the export.



The exported file will be saved to the standard Download folder – and is shown at the bottom of your screen.

Opening in Notepad shows the file:



In this case all plates were in List 1.

7 ACTUATORS

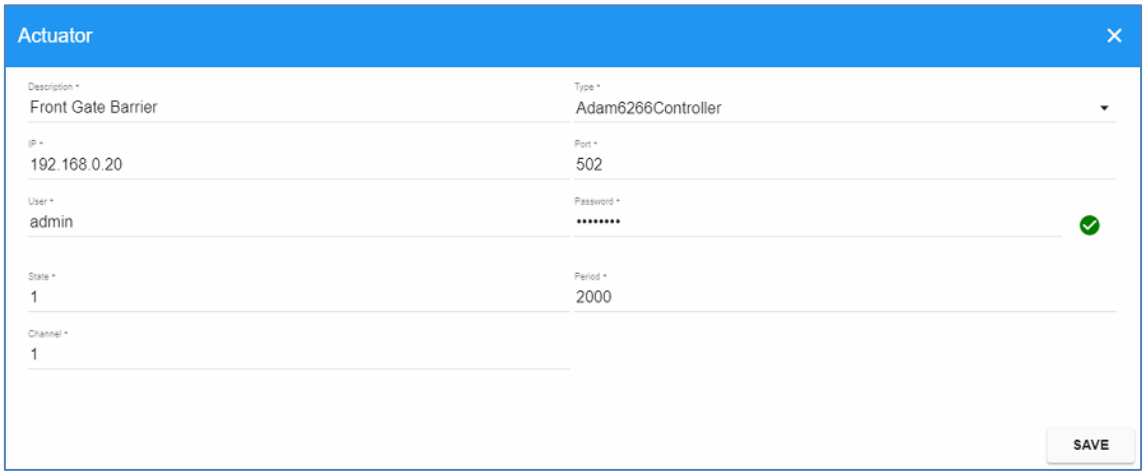
An actuator, otherwise known as a relay, is normally an opto-isolated device used for triggering external devices such as car park barriers or traffic lights.
Various standard devices are supported but the most common is the ADAM 6000 series from Advantech. The 6266 model for example is IP controlled and has four separate output channels meaning that four devices can be controlled from each unit. The advantage of an IP relay device is that it can be sited remotely from Helix-6. It could even be in a different City and a centralized Helix-6 Back Office is then able to remotely open barriers.

(Note that if the device is not on the same local network then a fixed IP should be used to remotely address it).

Before attempting to add an actuator to the system, check using the relay manufacturer's software that it is connected and functioning correctly.

7.1 Add a new Actuator

Click on the plus icon, bottom right, to add a new actuator. A window will appear where you can setup the device.



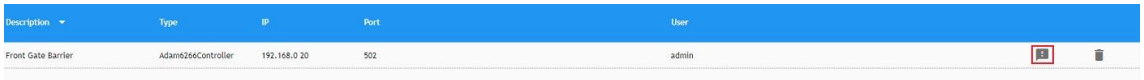
Enter a descriptive name for the device being controlled and select the type of device from the dropdown list of supported actuators.

Enter the IP address and port number for the device along with the setup user name and password (to access the device. The default Adam password is: 00000000)

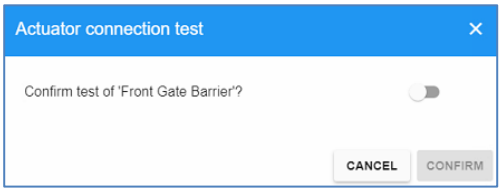
The State (0 or 1) is what you want the device to be switched to and the Period in Milliseconds is the relay latch time. (the time that the relay is closed for). In the case of the Adam relay you can set this time directly by accessing the relay via its IP address or utility software. Most barriers operate on a minimum pulse time of 200ms.

The Channel is the relay number within the device. In the case of the 6266 it can be set from 1 to 4 to trigger each relay within the device.

Once added you can test the relay by clicking the icon on the right as follows:



A window appears asking you to confirm the test. Use the slider and then click CONFIRM.A success or failure message is then displayed.



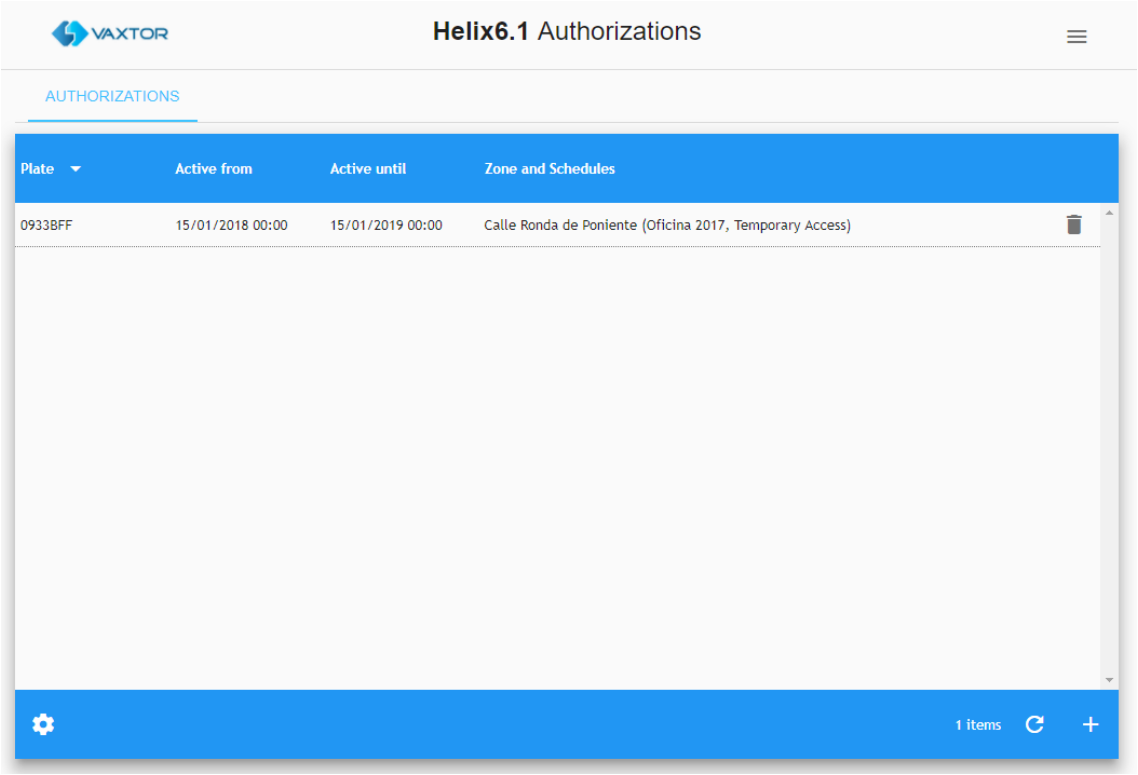
Remove an actuator by clicking the Trash Can icon on the far right next to the appropriate actuator.

Note: use the Gear Icon (bottom left) to select fields to display such as the actuator state.

8 AUTHORIZATIONS

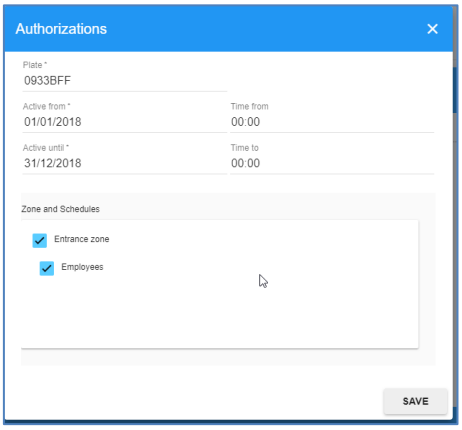
An authorized plate is one that can be allowed into a zone or past a camera. This section allows the user to view, create, edit and delete the authorized plates in the system. The fields show the license plate of the vehicle, its authorized date range, zone and enabled schedules.

Clicking on any element of the list will open the edit menu.



8.1 Create a plate authorization

To create a new authorization, press the add “+” button.



A pop-up window will appear in which the following parameters must be entered:

- **Plate**: Enter the registration number you want to authorize.
- **Active from:** Enter the starting date for the plate to be authorized.
- **Active until**: Enter the end date for the authorization period.
- **Zones and Schedules**: Select the zone for which the vehicle will be authorized, and if applicable, the timetable for the authorization.

8.2 Delete an Authorization

To delete an authorization, click on the associated trashcan icon. Once this button is pressed, a confirmation window will appear asking you if you want to delete this record. If you are sure, press the "OK" button and the authorization will be deleted.

9 CONFIGURATION

This section allows the user to view, create, modify and delete the zones, cameras, schedules, sections and capacity counting areas. Chapter 11 of this document contains a few configuration examples for the most common scenarios.

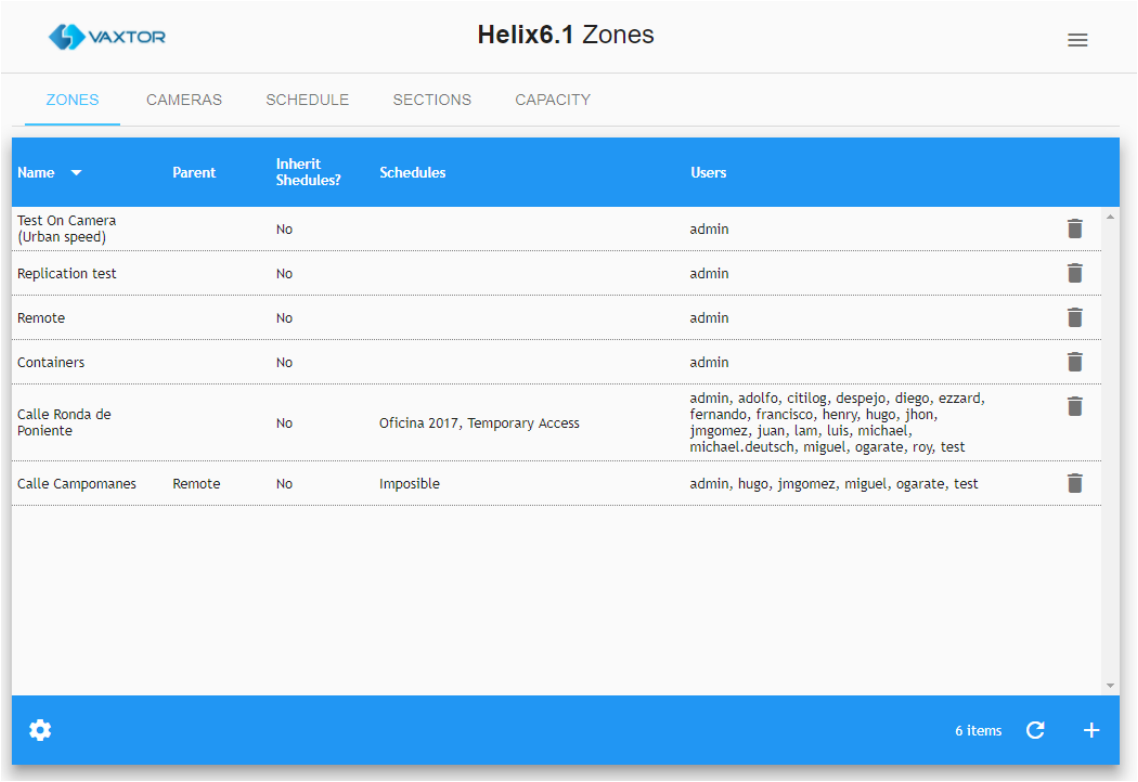
9.1 ZONES

In Helix-6 a zone is a user defined area that may include other zones and / or cameras. When a plate is sent to Helix-6 by an ANPR camera, that plate is assigned to the zone where the camera is configured.

Helix-6 will process each plate according to the zone's rules, checking if the vehicle is authorized, generation of an alarm, etc. It is possible for a zone to inherit the schedules of its parent zone.

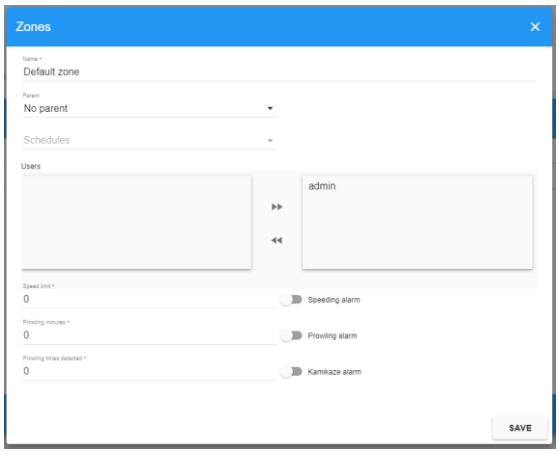
Review the examples in chapter 11 for further details.

Clicking on any element of the list will open the edit menu.



9.1.1 Create a zone

Press the add (+) button at the bottom right of the menu.



A pop-up window will appear in which you can define the following parameters.

- **Name**: User defined name for the zone.
- **Parent**: Select the parent zone (if any). Once a parent zone is select it will be possible to inherit any schedules set.
- **Schedules**: Select the schedules that apply to this zone. If a zone has no schedules associated with it, then all the vehicles are authorized by default.
- **Users**: Select which users can see this zone and receive real time events generated by it. Do this by selecting the appropriate user from the users list and double click on the user to move it across to the right-hand box (assigned users). This user can now see view real-time information. *The reason this is not set as a default is there may be a massive amount of information being received from many readers which would overload the system.*
- **Speeding alarm**: If activated, an alarm will be generated if a vehicle goes over the preset speed limit.
- **Prowling alarm**: (Frequent Visitors) If activated, an alarm will be generated if the same vehicle is detected ***x*** times in that zone within ***y*** minutes / hours / days (where ***x & y*** are user defined).
- **Kamikaze alarm**: If activated, an alarm will be generated if a vehicle is travelling in the opposite direction to that specified. (see 9.2.1 Add a camera where you can enter the expected direction)

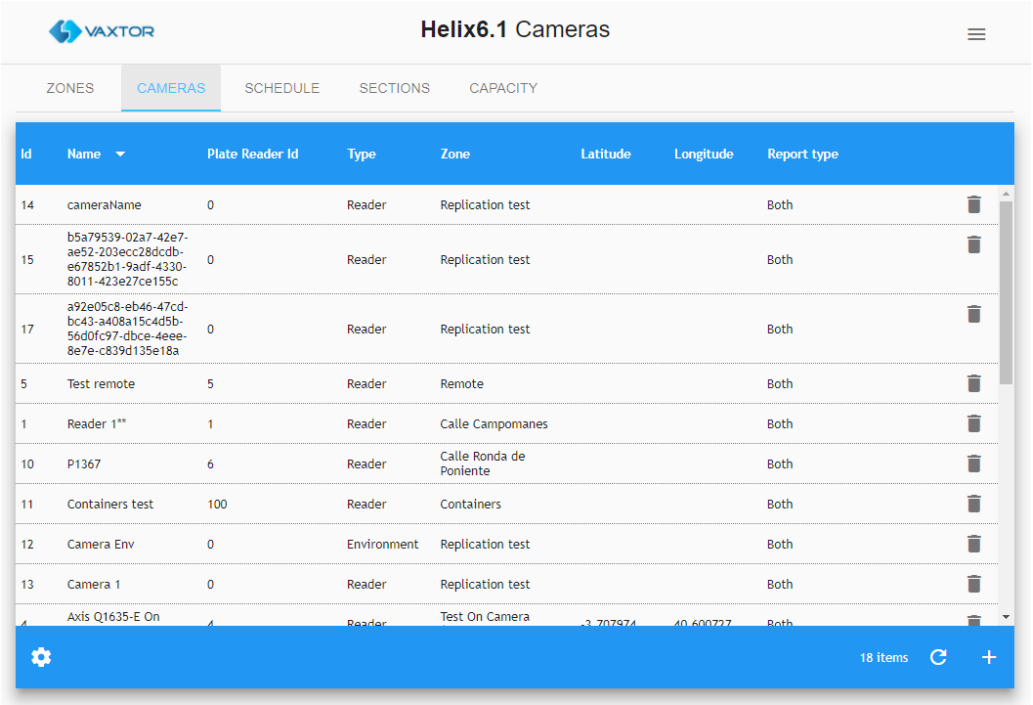
9.1.2 Delete a zone

To delete a zone, click on the associated trashcan icon. Once it is pressed a confirmation window will appear. A zone cannot be deleted if it has cameras associated with it.

9.2 Cameras

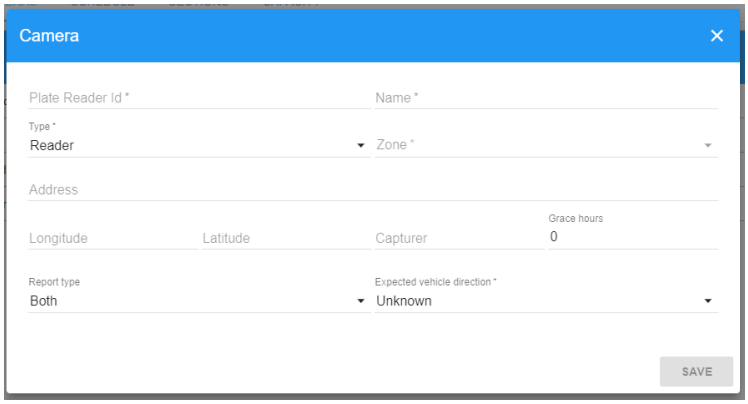
This area shows all active cameras defined in Helix-6 including environment (colour contextual) cameras.

Clicking on any element of the list will open the edit menu.



9.2.1 Add a camera

To add a new camera to the system, press the add (+) button (bottom right)



- **Plate Reader Id**: This is a unique identifier defined by the plate reading software (VaxALPR On Camera, VaxALPR for PC or VaxALPR On Board).
- **Name**: User defined name to help identify the camera.
- **Type**: Camera type:
    - *Reader*: Select this option if the camera is an ANPR camera.
    - *Environment*: Select this option if the camera is linked to a plate reader but is not the camera capturing the plate. i.e. this is a (colour) contextual camera.

(Use the same Plate Reader Id as this is the associated colour contectual camera for the IR camera setup in VaxALPR)

- **Zone**: Select the area in which you want to register the camera.
- **Address**: User defined address of the camera.
- **Longitude and latitude:** The GPS coordinates where the camera is located. If defined, all the plates read by this camera will be assigned to this location.
- **Report type:** Select when Helix-6 should store the result.
    - *Freeflow*: Store the plate only if it has been detected in freeflow mode.
    - *Signalled (Triggered)*: Store the plate only if it has been detected due to an external trigger.
    - *Both*: Store the plate always.
- **Expected Vehicle Direction**: Alarms can be generated if a plate is travelling the wrong way. VaxALPR attempts to determine the direction of each plate read and passes this onto Helix-6. Values can be:
    - *Getting closer. Plates are expected to approach the camera.*
    - *Getting farther. Plates are expected to be moving away from the camera. Note that if the camera is positioned very low for example, i.e. below the height of a plate, then the direction can be mis-reported.*
- **Capturer**: User defined name for this server. This field is used in the replication process (when servers are being linked).

Fields marked with an asterisk are required. Once you have filled in all the data click the "Save" button to save the changes.

9.2.2 Delete a camera

To delete a camera, click on the associated trashcan icon. Once pressed, a confirmation window will appear to delete the selected camera.

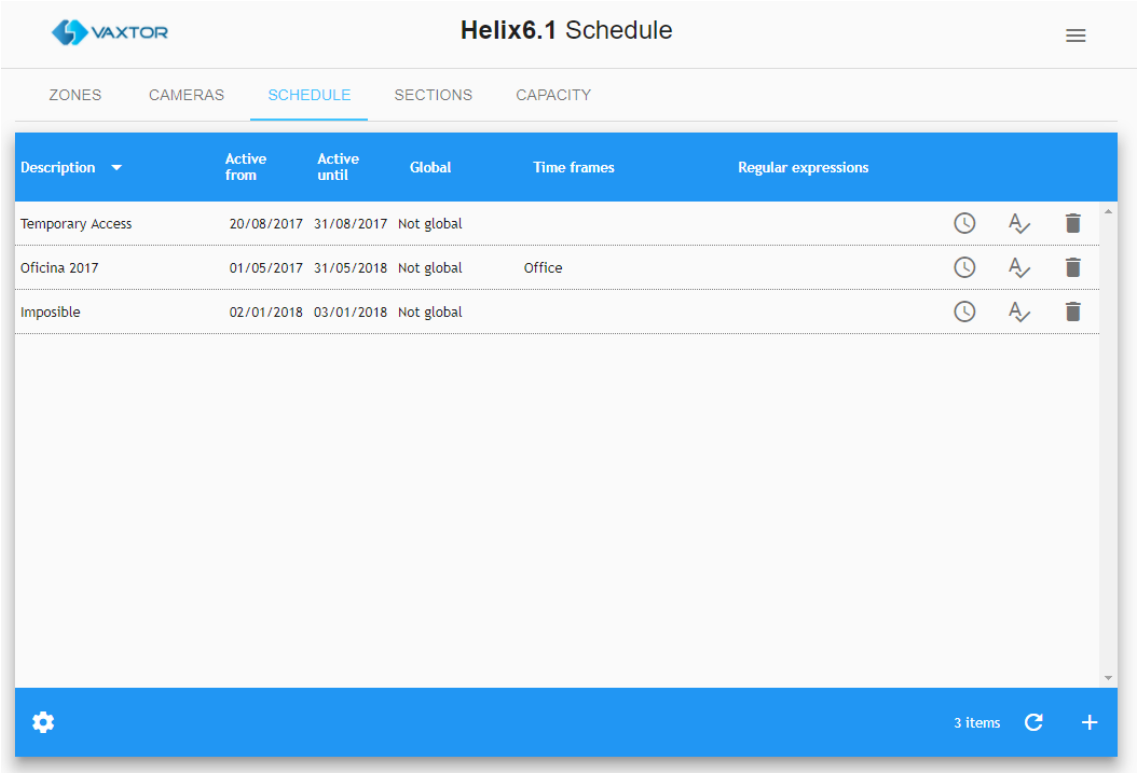
9.3 Schedule

A schedule defines the authorized date ranges for each plate captured.

If the capture date of the plate is within a schedule, then the authorization rules defined for that schedule are applied.

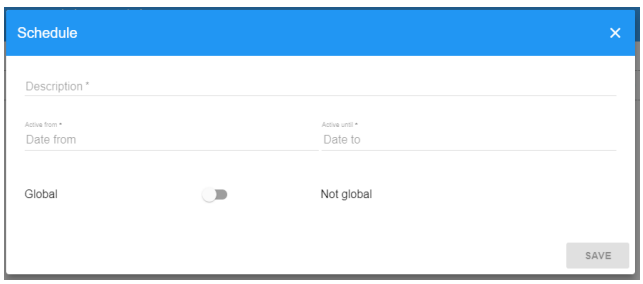
Only three exceptions are applied:

- If a zone has no schedules linked to it, then all the vehicles are authorized.
- If a vehicle is on a whitelist linked to the zone, then that vehicle is always authorized in that zone.
- If a schedule is global, then all the vehicles detected in that schedule are authorized.



9.3.1 Create a schedule

Press the add (+) button at the bottom right of the menu



A pop-up window will appear in which you can define the following parameters.

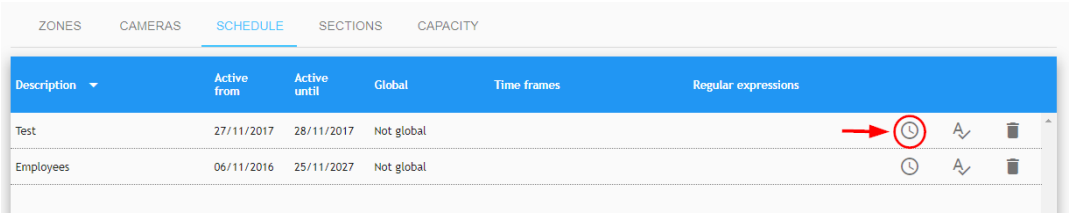
- **Description**: User defined description for the schedule.

- **Active from:** Enter the date from which the schedule will be activated.
- **Active until**: Enter the end date for the active schedule.
- **Global:** Indicate whether the schedule is global or not.

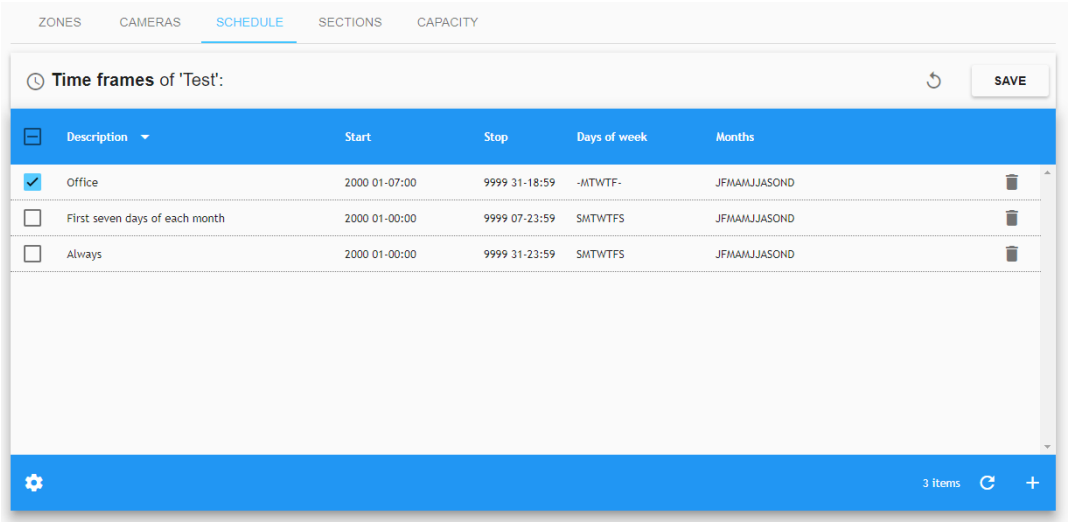
9.3.2 Linking Time frames to a Schedule

Usually schedules need to be more flexible than just a start and end date. Different times frames can be defined and associated with a schedule.

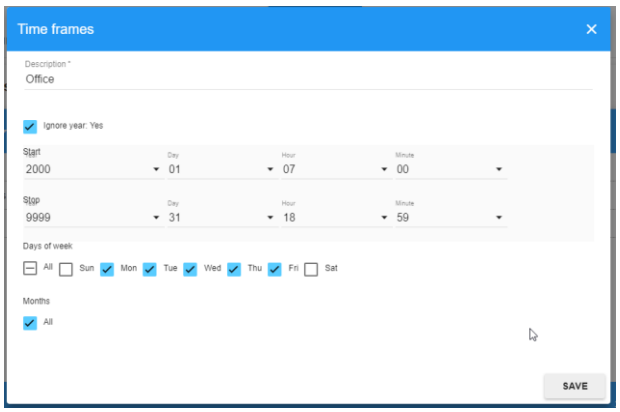
Once you have created your schedule, you will see a clock icon associated with it. Click on it to access the Time frames window.



Here you can select the different preconfigured Time frames, or create a new one by pressing the add button (+) located at the bottom right of the window.



9.3.2.1 Add or modify Time frames



To add a new Time frame, press the add (+) button at the List view area.

To modify a Time frame, double-click it.

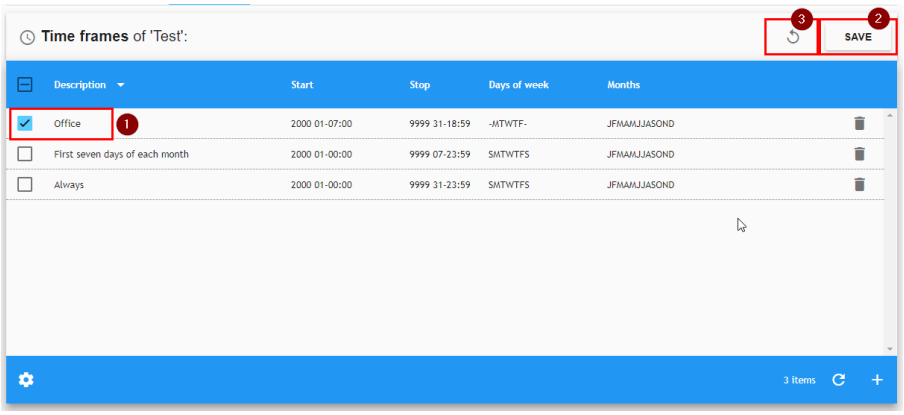
Edit fields as follows:

- **Description**: User defined description.
- **Ignore year**: Select this option if you want the timeframe to be valid for any year.
- **Start**: Start values for the time frame.
- **Stop**: Finish values for the time frame.
- **Day of the week**: Days of the week when this timeframe will be active.
- **Months**: Months when this timeframe will be active.

When you have finished setting the new Time frame press the "Save" button and you will return to the list.

NOTE: It is not recommended that you modify preconfigured Time Frames.

To assign the new timeframe to the schedule: enable it (1) and press “Save” (2). Otherwise, click (3) to return without changes.

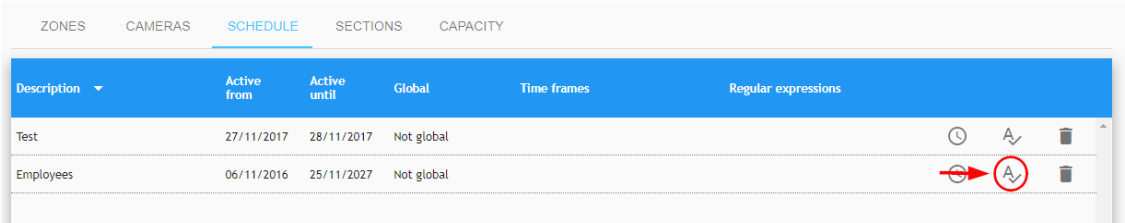


9.3.2.2 Delete a Time frame

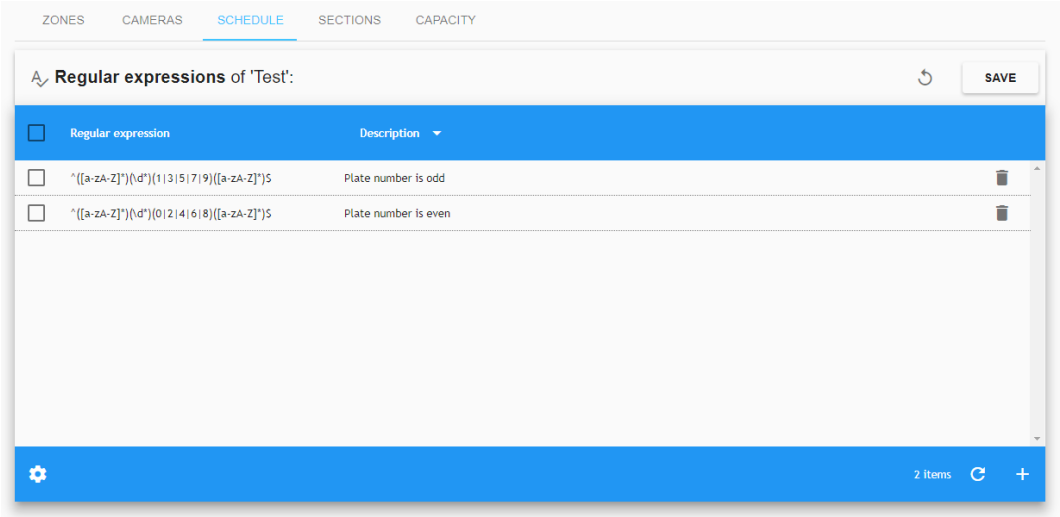
To delete a Time frame, click on the associated trashcan icon. A confirmation window will appear to delete the selected entry. A Time frame cannot be deleted if it is associated with a Schedule.

9.3.3 Linking Regular expressions to a Schedule

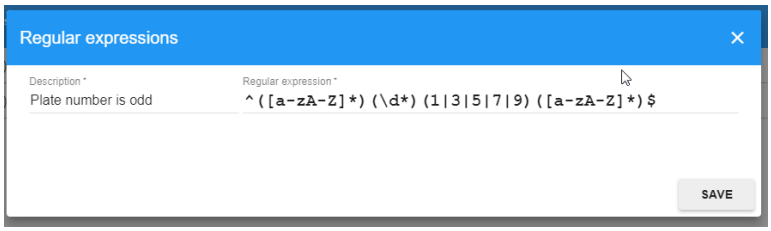
Once you have created your schedule, you will see a clock icon associated with it. Click on it to access the Regular Expressions window.



Once inside this menu, you can select previously configured Regular expressions, or create a new one by pressing the add button (+) located at the bottom right of the window.



9.3.3.1 Add or modify 'Regular Expressions'



A Regular Expression is a mathematical formula or logic expression used for say selecting odd plates or ones containing certain character combinations.

To add a new 'Regular Expression', press the add (+) button in the List view area.

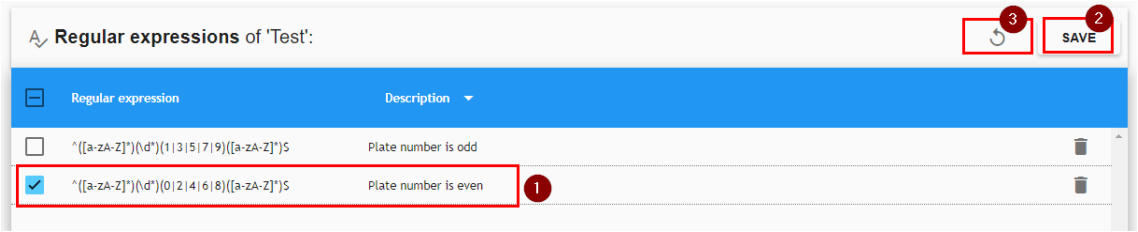
To modify a Regular expression, double-click it.

To edit fields:

- **Description**: User defined description.
- **Regular Expression**: Fill with an appropriate Regular Expression formula.

When you have finished setting the new 'Regular Expression', press the "Save" button, you will return to the list.

To assign the new 'Regular Expression' to the Schedule enable it (1) and press "Save" (2). Otherwise, click (3) to return without changes.



9.3.3.2 Delete a Regular expression

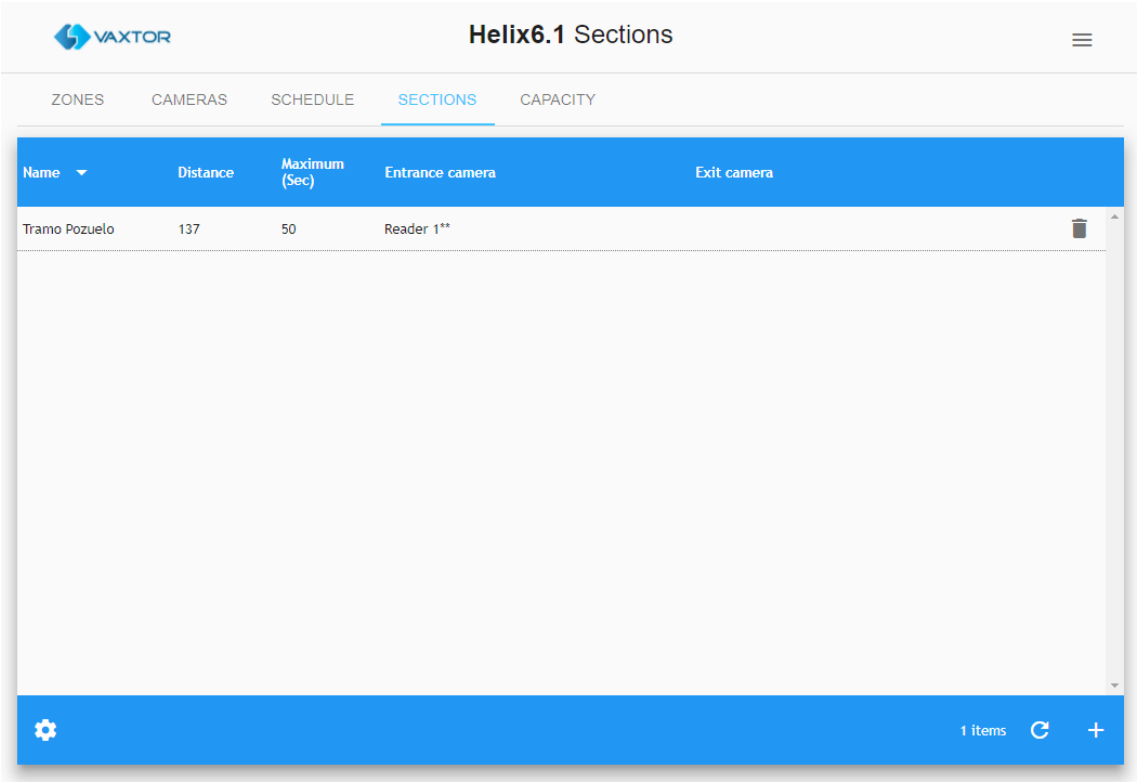
To delete a 'Regular Expression', click on the associated trashcan icon. Once pressed, a confirmation window will appear. A Regular expression cannot be deleted if it is associated with a Schedule.

9.3.4 Delete a Schedule

To delete a Schedule, click on the associated trashcan icon. Once pressed, a confirmation window will appear. A schedule cannot be deleted if it is associated with a zone.

9.4 Sections and Average Speed Alerts

Lengths of road between any two cameras may be defined as a section. This could be part of a road network, part of a large car park or even a long entrance lane into an industrial estate where speed is to monitored.

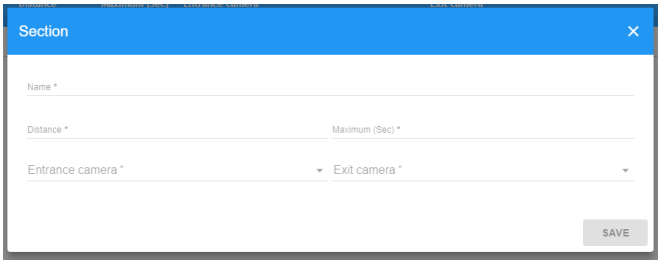


The length of the section (the distance between the two cameras) may be defined in meters and the maximum target time to complete the journey set is seconds. This can be considered as the average speed limit for the section. By setting these parameters then when a vehicle passes between the two defined cameras in less than the set time - an alert is generated and displayed on the user screen.

The speed is stored against every vehicle passing the second camera and can be seen using the PLATES / SEARCH facility.
Plates read by the first camera are shown with a speed of -1. Plates read can be searched by those generating alerts and these alerts can also be sent by email – see later in this guide.

9.4.1 Create section

Press the add (+) button at the bottom right of the menu.



A pop-up window will appear to define the section:

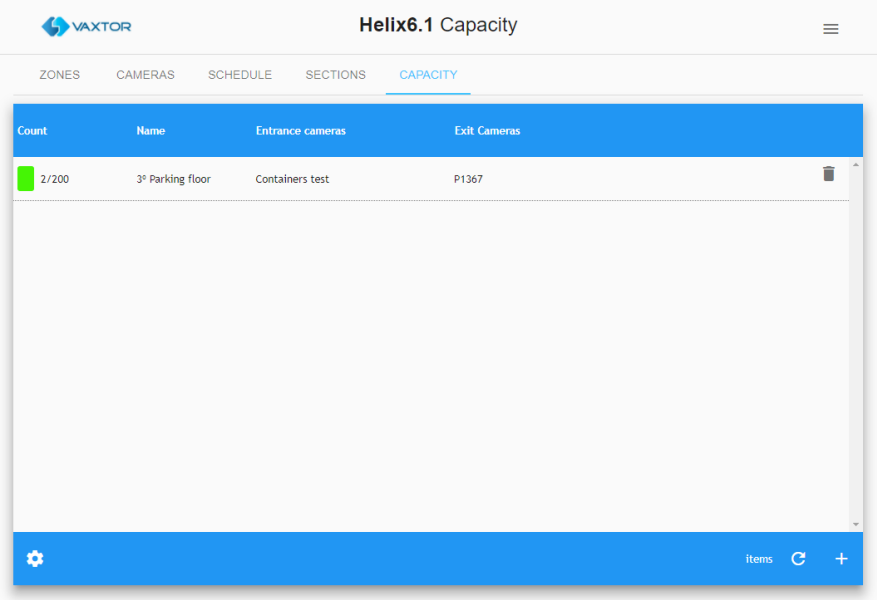
- **Name**: User defined name for the section.
- **Distance**: Distance between the entry camera and the exit camera of that section.
- **Maximum**: Number of seconds to abort the calculation. If a vehicle takes longer than the specified number of seconds then the speed is not calculated.
- **Entrance camera:** Entrance camera for the section.
- **Exit Camera**: Exit camera for the section

9.4.2 Delete a section

To delete a section, click on the associated trashcan icon. Once pressed, a confirmation window will appear.

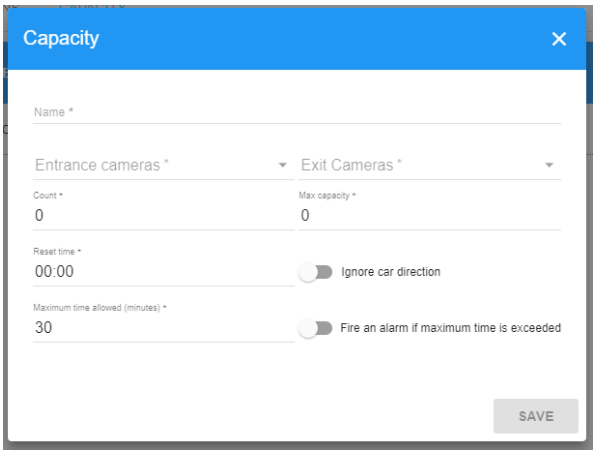
9.5 Capacity (Vehicle Count)

Helix-6 can track the capacity (vehicle count) within a defined area.



9.5.1 Create a Capacity / Count Area

Press the add (+) button at the bottom right of the menu.



A pop-up window will appear where you can define the area:

- **Name**: User defined name for the Capacity / Count area.
- **Entrance camera:** Entrance camera for the section.
- **Exit Camera**: Exit camera for the section
- **Count**: Vehicles inside Capacity / Count area.
- **Max Capacity**: The maximum number of vehicles allowed in the Capacity / Count area.
- **Maximum time allowed**: by vehicle.
- **Reset time**: The time at which the count is automatically reset to zero. E.g. 23:00.
- **Ignore Car direction:** The user can choose to ignore the direction of travel.

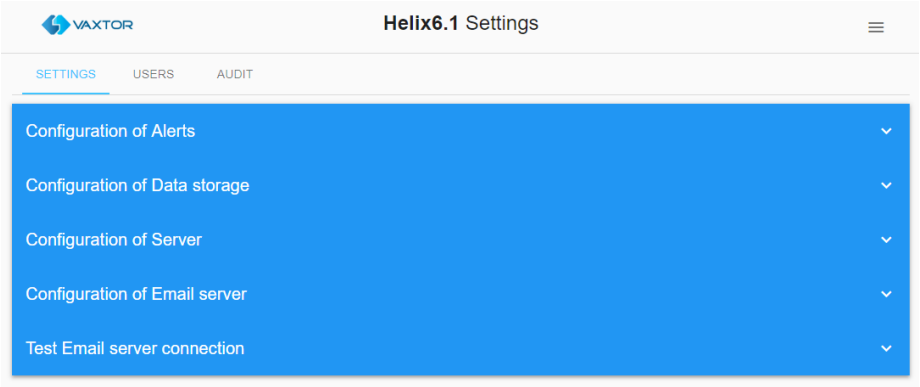
9.5.2 Delete a section

To delete a section, click on the associated trashcan icon. Once pressed a confirmation window will appear.

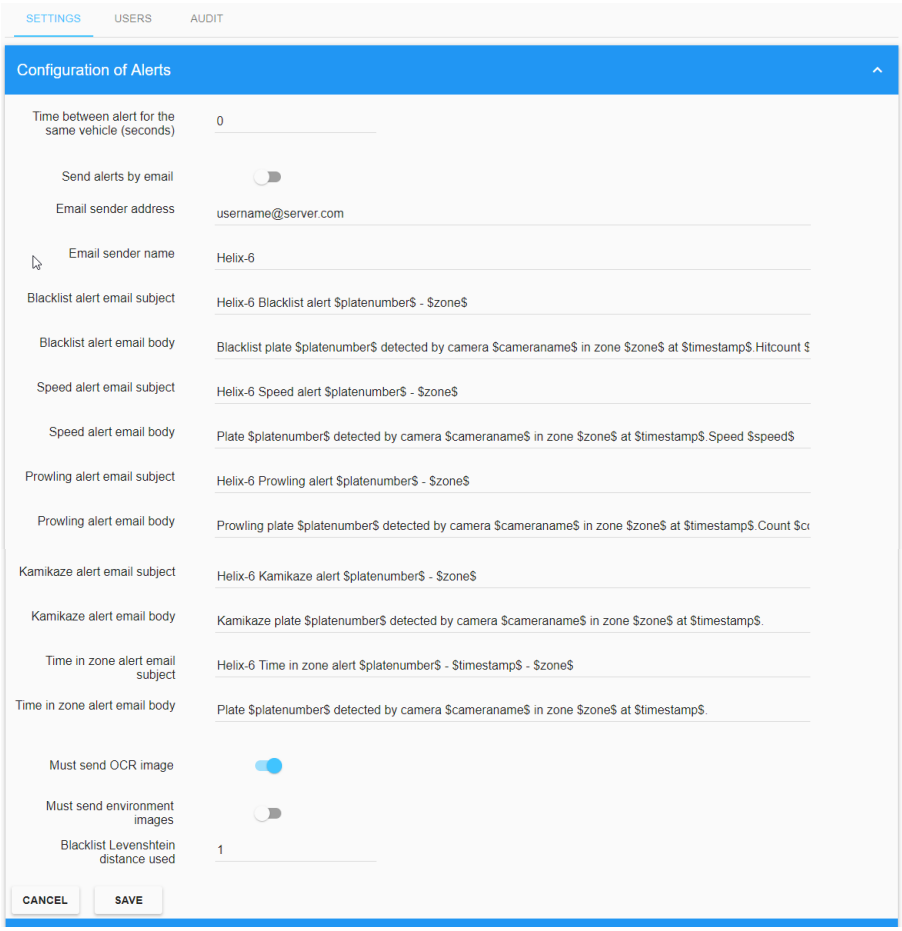
10 SETTINGS

The settings area is only available for administrators. In this section, it is possible to view and modify the main settings for the server.
Do not modify the values in this section if you have not read and fully understand this manual.

10.1 Settings Tab



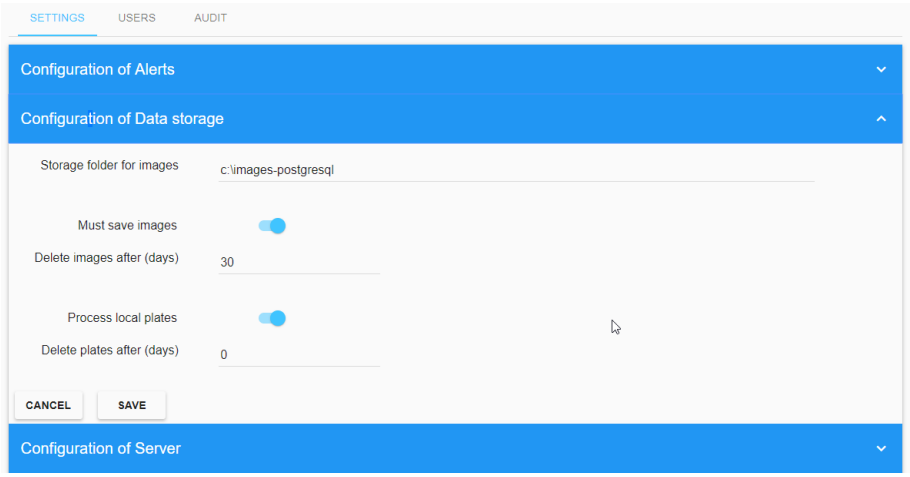
10.1.1 Configuration of Alerts



Click on the blue bars to show or hide the options.

- **Time between alert for the same vehicle (seconds)**: Set the minimum time between blacklist alerts for the same vehicle.
- **Send alerts by email**: Enable this option to send emails to specified users when an alert is triggered by the system.
- **Email sender address**: Insert the sender's email address for all the alerts. This is how it should appear in the received email message – and needn't be the actual email address used (smtp) as set up below.
- **Email sender name**: Enter the name of the sender that will appear in the sent emails.
- **Blacklist alert email subject**: Set the mail subject for blacklist alerts. It is possible to use special words that will be replaced by the real-time information in the email. The allowed values are described in the appendix of this document.
- **Blacklist alert email body**: Set the mail body for blacklist alerts. It is possible to use special words that will be replaced by the real-time information in the email. The allowed values are described in the appendix of this document.
- **Speed alert email subject**: Set the mail subject for overspeed alerts. It is possible to use special words that will be replaced by the real-time information in the email. The allowed values are described in the appendix of this document.
- **Speed alert email body**: Set the mail body for overspeed alerts. It is possible to use special words that will be replaced by the real-time information in the email. The allowed values are described in the appendix of this document.
- **Prowling alert email subject**: Set the mail subject for prowling alerts. It is possible to use special words that will be replaced by the real-time information in the email. The allowed values are described in the appendix of this document.
- **Prowling alert email body**: Set the mail body for prowling alerts. It is possible to use special words that will be replaced by the real-time information in the email. The allowed values are described in the appendix of this document.
- **Kamikaze alert email subject:** Set the email subject for Kamikaze alerts. It is possible to use special words that will be replaced by real-time information in the email. The allowed values are described in the appendix of this document.
- **Kamikaze alert email body:** Set the email body for Kamikazee alerts. It is possible to use special words that will be replaced by real-time information in the email. The allowed values are described in the appendix of this document.
- **Time in zone alert email subject:** Set the email subject for time in zone alerts. It is possible to use special words that will be replaced by real-time information in the email. The allowed values are described in the appendix of this document.
- **Time in zone alert email body**: Set the email body for time in zone alerts. It is possible to use special words that will be replaced by real-time information in the email. The allowed values are described in the appendix of this document.
- **Time in zone plate distance**: This is the plate match accuracy (Levenshtein distance) of a plate entering and leaving a zone for them to be considered the same plate.
  Example: if the reader at the entrance reports 1234ABC and the reader at the exit reports 1235ABC and the distance is 1, then system will mark 1234ABC as out.
- **Must send OCR image**: Enable this option to append the OCR image to the emails.
- **Must send environment images:** Enable this option to append the environment images to the emails.
- **Blacklist Levenshtein distance used:** This is the Blacklist Match Accuracy which is the number of characters that may differ between the plate read and the plate on the blacklist to trigger an alert.

10.1.2 Configuration of Data storage



- **Storage folder for images**: Helix-6 will store all the images in the directory specified. The directory **MUST already exist.**
- **Must save images**: Enable this option if you want to save the images.
- **Delete images after (days)**: Helix-6 will remove (purge) any image older than the amount of days selected here. Set this value to 0 if you want to disable this feature.
- **Process local plates**: Usually this option should be enabled. Disable this option only if Helix-6 should only process new plates inserted by the REST API.

10.1.3 Configuration of Server

- **API Key**: Displays the master API Key assigned to the system.
- **Reset API key**: Enable this option to generate a new random API Key for the server.
- **Maximum login tries**: The maximum number of attempts to access Helix-6 before the account is locked. (incorrect login credentials)
- **Login disable time**: Set the number of minutes that an account is locked for after the maximum number of login tries has been exceeded.
- **Audit days stored**: Enter how many days the audit trail logs will be stored on the system.
- **Audit all users**: When enabled, all the actions of all the users are stored in the audit system. When disabled, only the actions of the users that have been selected for audit are stored.
- **Logout automatically after**: Set the number of minutes that a user can be idle before Helix-6 logs them out and they are requested to login again.

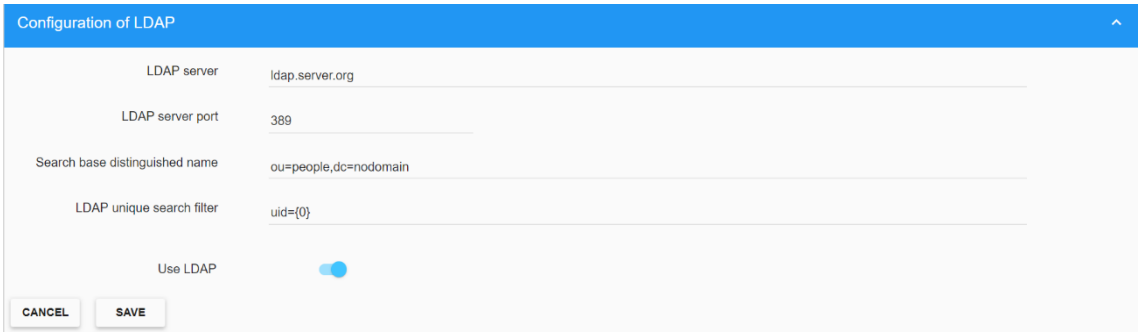
- **Encrypt local lists**: Select this option to use encrypt all lists on the system using RSA 256 bit encryption. Note that the program currently uses a Postgres database which is already encrypted so this extra layer is not needed.
- **Password expiration**: Set the number of days before the user is requested to change their password.
- **Default time for quick add to list (hours)**: There is a button to quickly authorise a plate on the system for an extra 2 hours. Set this value here - normally 24 hours.

10.1.4 Configuration of LDAP

Helix-6 can use a LDAP server (version 3) to authenticate the users. When LDAP integration is active the user login is performed on the LDAP server.

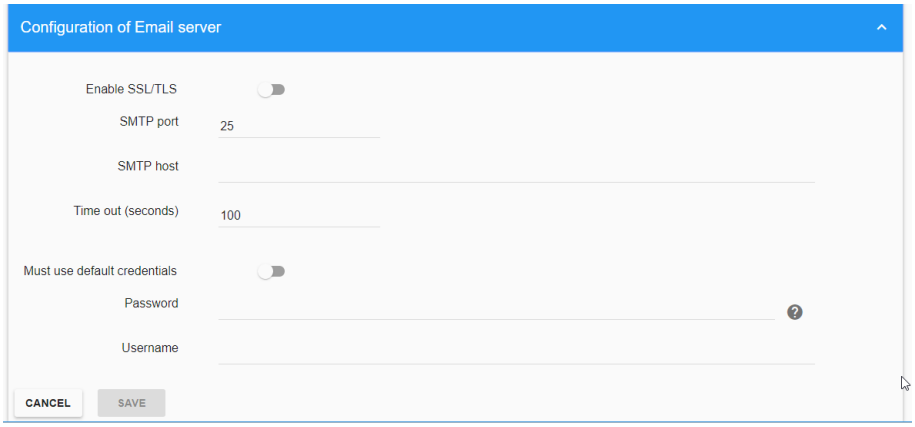
If the authentication fails, the user will not be allowed to login to the system.

Only users with "Admin" rights will be logged in using the local credentials in cases where the LDAP authentication fails.



- LDAP server: LDAP server domain name or IP address.
- LDAP server port: LDAP server port. 389 by default.
- Search base distinguished name: LDAP base search storage to be used when searching for users on the LDAP server.
- LDAP unique search filter: Filter used to find the desired user. This filter **must** find unique users based on the LDAP configuration.
- Use LDAP: Activate the LDAP integration

10.1.5 Configuration of Email server



If you require the system to send out email alerts (as defined above for various alarm conditions) then you must setup and configure an email accout for the system to use.

- **Enable SSL / TLS**: Enable this option if you want to enable SSL or TLS protocol.
- **SMTP port**: Enter the port number to use to connect to the server, default: 25.
- **SMTP host**: Enter the IP address or the host name of the SMTP server.
- **Time out**: Set the maximum time for sending the email, if the response to the request exceeds that time the system will not send the information.
- **Must use default credentials**: Enable this option to use the windows user credentials with the SMTP server.
- **Password**: SMTP user password.
- **Username**: SMTP username. Eg. Helix@mycompanyemail.com

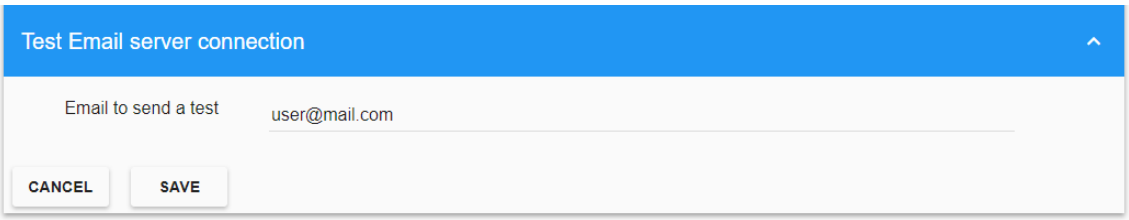
After enabling and completing all email configuration parameters, click the "Save" button and you will be asked to confirm the password:

NOTE: The button changes from "Cancel" to "Confirm" when the password has been input correctly.

Remember to setup the receiving email address. This can be setup for each user – see Section 10.2.1

10.1.6 Test Email server connection

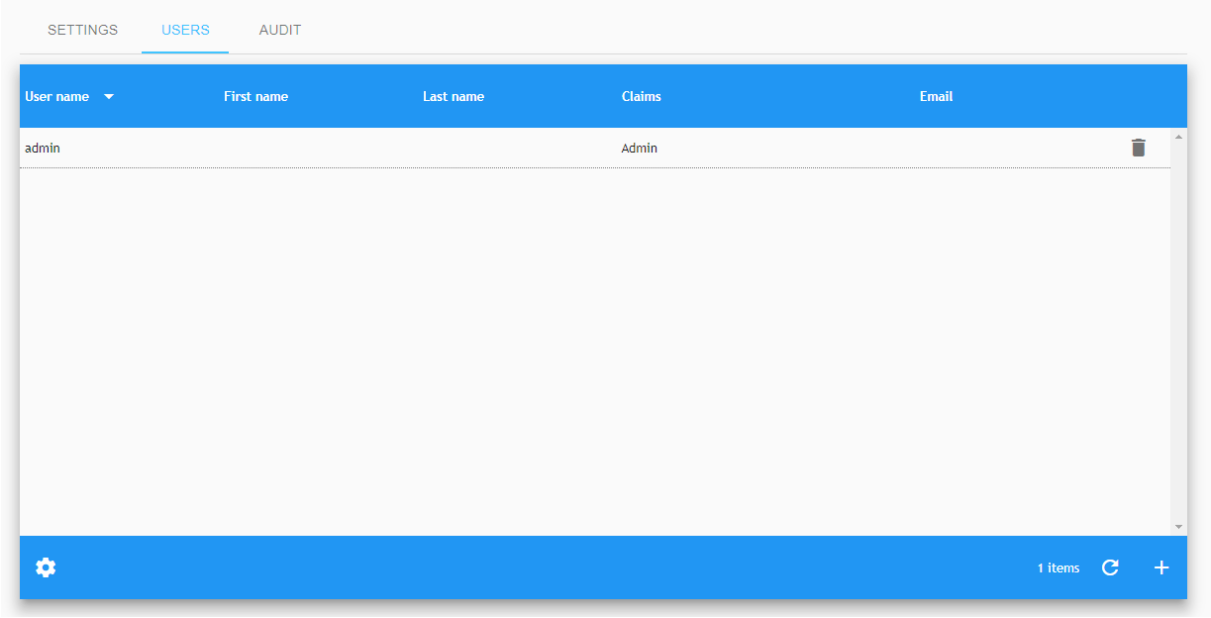
To test the email server connection, enter a valid email address and click the "Save" button. If your configuration is correct then you will receive an email in your mailbox.



Remember to set the permanent target email address up when you setup users in section 10.2.1. Even the admin account should have one.

10.2 Users Tab

This area shows the active users defined in Helix-6.
It is possible to view, add, modify or delete any user.

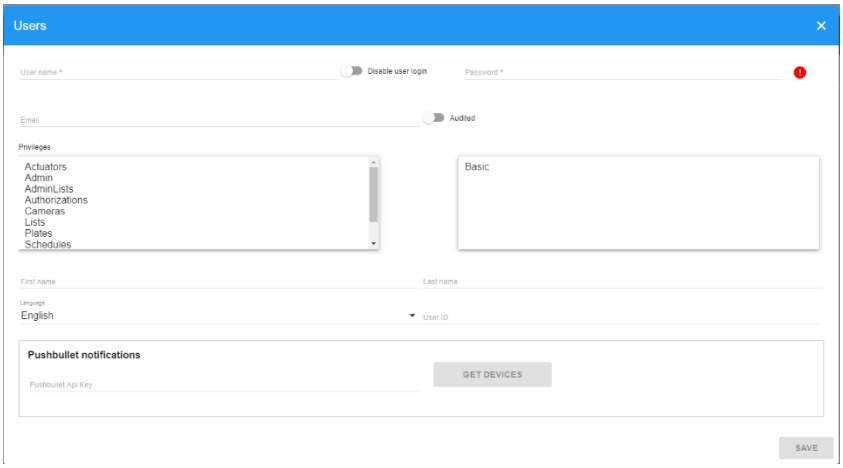


Click on any element of the list to open the Edit menu.

At any given time, any user can modify their password by clicking on the top right icon in the application.

10.2.1 Create new user

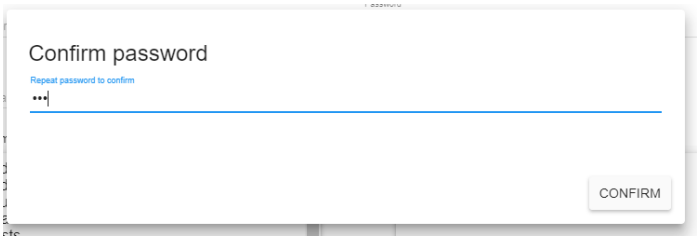
Press the add (+) button. A popup window will appear to create a new user.



- **Username**: Username for the new user.
- **Disable user login**: If enabled the user will not be able to login in the system and his password will be deleted. Apikey access will still work. **This option has no effect if LDAP is enabled.**

- **Password**: Default password for the new user.
- **Email**: Enter the user's email address. This email is used to receive system alerts. This is so that that each user can receive their own email alerts.
- **Audited**: Activate this option to add this user to the audit trail.
- **Claims**: Set the privileges assigned to the user. Do this by double clicking on an item in the list to move ir over to the user column (on the right)
  Allowed privileges are:
  - **Actuators**: The user can setup and configure actuators (relays).
  - **Admin**: Full priviliges.
  - **Admin Lists:** The user can create, modify and delete any lists in the system.
  - **Authorizations**: The user can view, create, modify or delete authorizations.
  - **Basic**: The user can view data for zones, cameras, calendars, license plates and images. The user will only be able to see the information if it is also added for a user in the desired zone.
  - **Cameras**: The user can create and modify cameras.
  - **Lists**: The user can create, modify and delete only his own lists.
  - **Plates**: The user can modify plates read and protect images.
  - **Schedules**: The user can create, modify and delete schedules and timeframes.
  - **Users**: The user can create, modify and delete users.
  - **Zones**: The user can create, delete and modify zones.
- **First Name**: First name of the user.
- **Last Name**: Last name of the user.
- **Language**: User interface language.
- **User ID**: An optional ID normally used by the Police when plates are exported.
- **Pushbullet API Key**: Used with the Pushbullet software which is used for communicating with mobile devices. The system can be setup to sent alarms to such a mobile device.

To create (or change) a new password, see below:



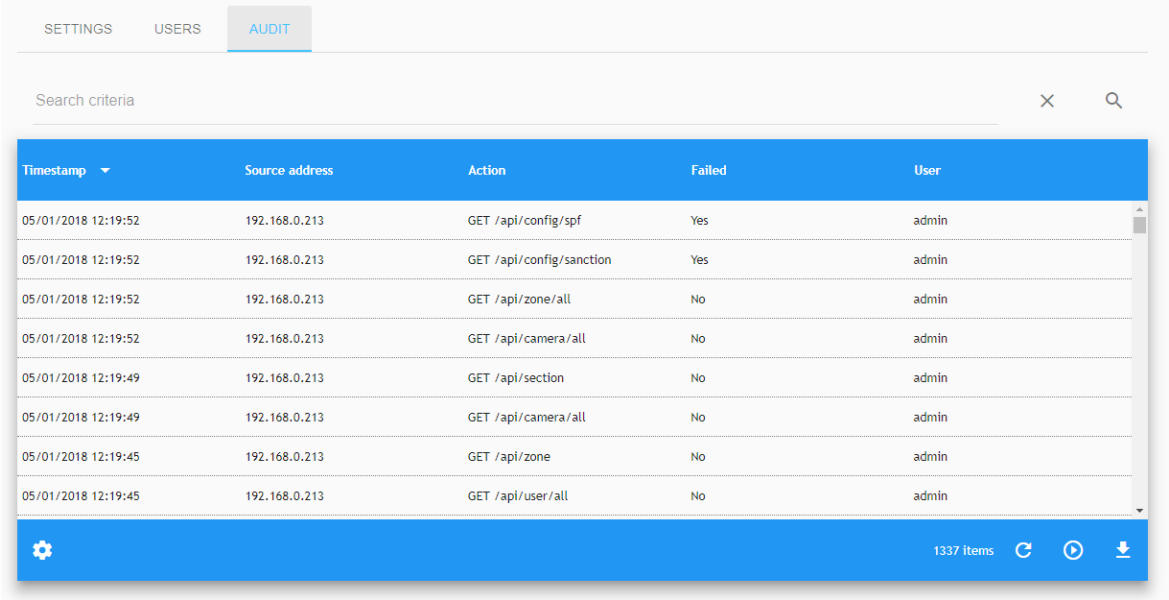
NOTE: The button changes from “Cancel” to “Confirm” when the password has been entered correctly.

10.2.2 Delete a user

To delete a user, click on the associated trashcan icon. Once pressed, a confirmation window will appear.

10.3 Audit Tab

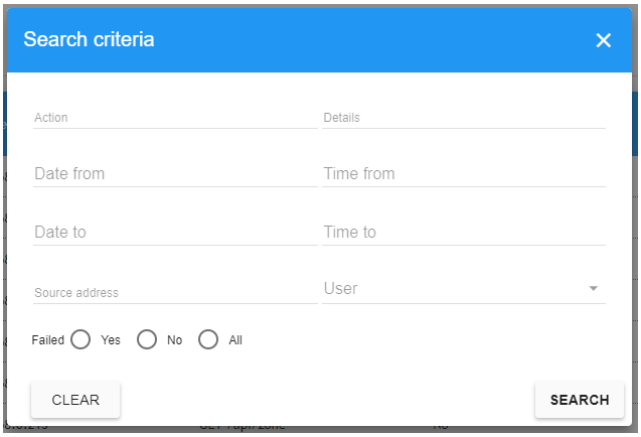
All the actions performed on the system are stored by default in the audit trail log. You can monitor exactly what each user is using the system for.



10.3.1 Search Audit records

10.3.1.1 Search criteria

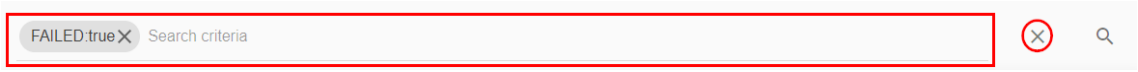
In the upper left corner of the table there is a small magnifying glass icon . When clicked, a pop-up window appears where you can choose from the following search filters:



- **Action**: Helix-6 action recorded.
- **Details**: Text details of the action are recorded.
- **Date from** + **Time from**: Will show only the activity since the selected date + time.
- **Date to** + **Time to**: Will show only the activity until the selected date + time.
- **Source address**: IP address of the user that has performed a Helix-6 action.
- **User**: User who has performed the Helix-6 action
- **Failed**: Shows if the action failed or not.

10.3.1.1.1 Search Filters

Helix-6 includes a fast way to use filters by adding your own search criteria as a text string. For this Audit page, a Search Filter bar is included in the Search area, where you can add or remove search filters:



Chip syntaxis is: FilterKey:FilterValue, where:

Field	Filterkey	FilterValue
ACTION	ACTION	Action Example: *ACTION:GET /api/user/all*
DETAILS	DETAILS	Text included in the Details attribute.
DATE FROM	FROM	DateTime format dd/MM/yyyy hh:mm:ss, example: *08/01/2018 10:22:29*
	DATEFROM	
DATE TO	TO	DateTime format dd/MM/yyyy hh:mm:ss, example: *08/01/2018 10:22:29*
	DATETO	
FAILED	FAILED	*true* or *false*
USER ID	USER	User ID or user username
	USERID	
SOURCE ADDRESS	SOURCE	IP address Example: *SOURCE:192.168.0.131*

Note: To clear search criteria use button located at the right of the Search Filter bar.

11 REST API

It is possible to communicate directly with Helix via the REST API which facilitates functions such as pushing Blacklists or Whitelists directly into the Helix SQL databases (PUT) or receiving plate reads or images back (GET).

11.1 Definitions

API – Application Programming Interface.
This allows an external or remote piece of software to communicate directly with Helix

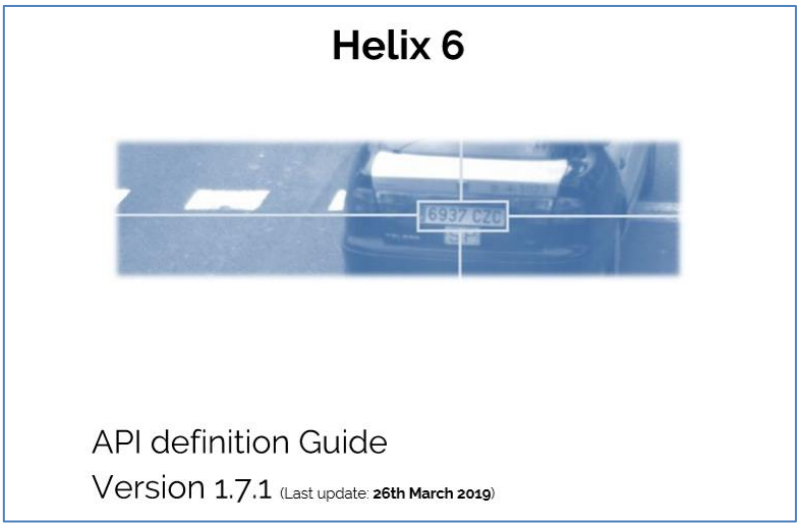
REST - Representational State Transfer (sometimes written as ReST)
REST is an architectural style for providing standards between computer systems on the web., making it easier for systems to communicate with each other. REST-compliant systems, often called RESTful systems, are characterized by how they are stateless and separate the concerns of client and server.

So, a REST API defines a set of functions which developers can use to perform requests and receive responses via HTTP protocol such as GET and POST.

Because REST APIs use HTTP, they can be used by practically any programming language and are easy to test. It is a requirement of a REST API that the client and server are independent of each other allowing either to be coded in any language.

11.2 Helix 6 REST API Complete Definition

See separate manual: ***Helix6 – API Definition – v1.7.1*** *or later.*



To request a copy of the API Definition Guide please contact Vaxtor via the website form or directly from info.eu@vaxtor.com

12 Configuration Examples

This section will cover how to configure the system for different common scenarios.

12.1 Configuration based on a schedule

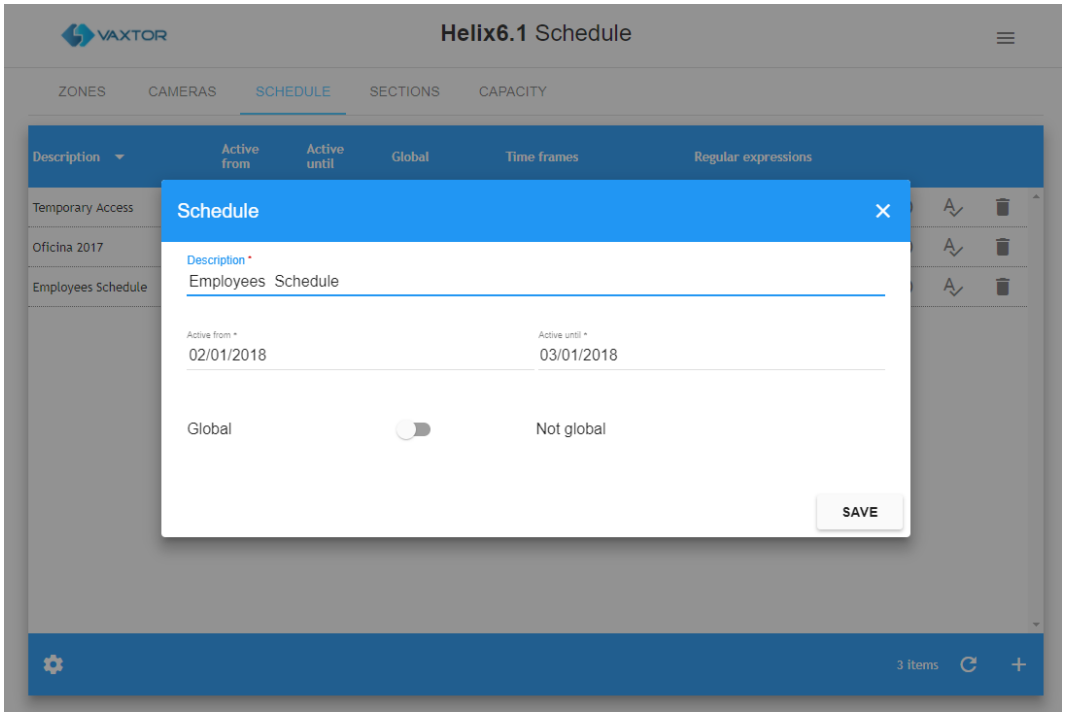
Scenario conditions:

- Helix-6 system setup for access control.
- Employees of the company shall be allowed to enter the parking lot during office hours.
- Service staff of the company shall be allowed to enter the parking lot at the weekends at any time.

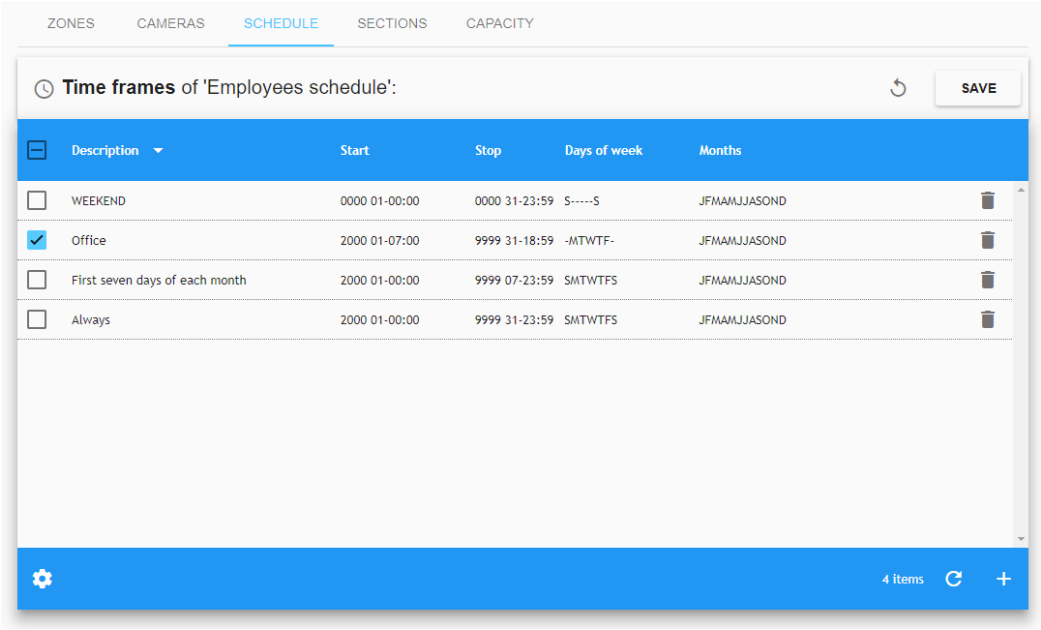
Configuration: Known delivery vehicles are to be permitted access during business hours.

This scenario will be configured with a general zone, which has two cameras, one for the entry lane and one for the exit lane.

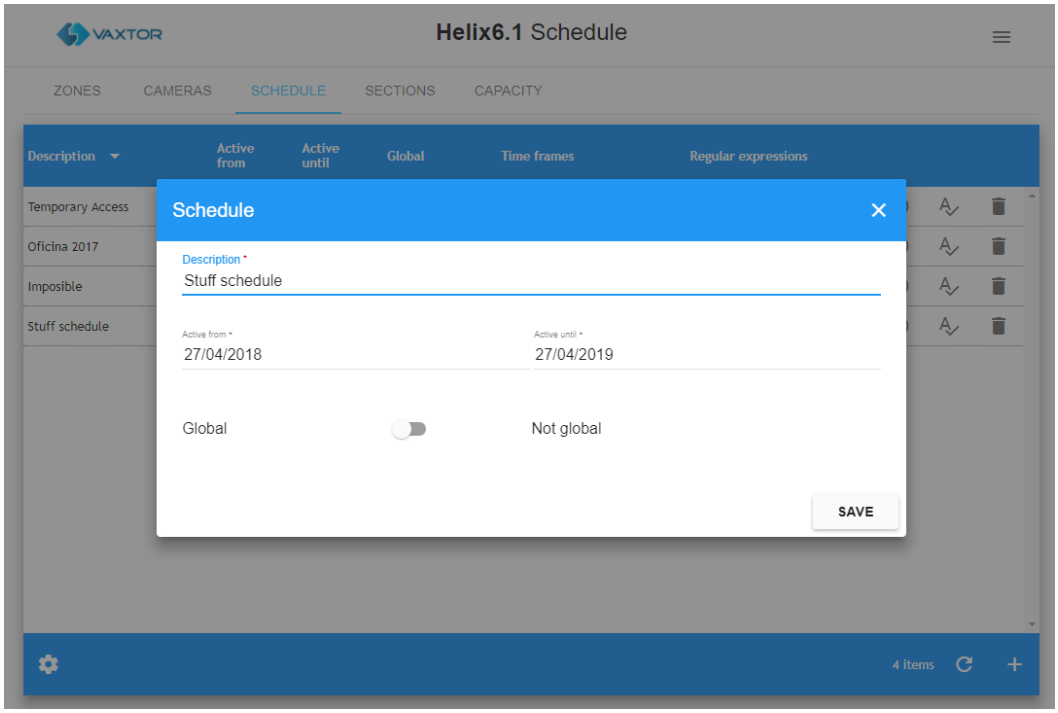
- Create a new general zone. We will call this zone “Default zone”.
- Create two cameras and assign them to the new zone.
- Create a new schedule. We will call this Schedule “Employees Schedule”.
    - Give the schedule the desired duration. In this example, it will be this year.
    - Set the schedule as not global.
    - Click “Save”.



- Click on the “Clock” icon in the “Employees schedule” row to open the timeframe interface.



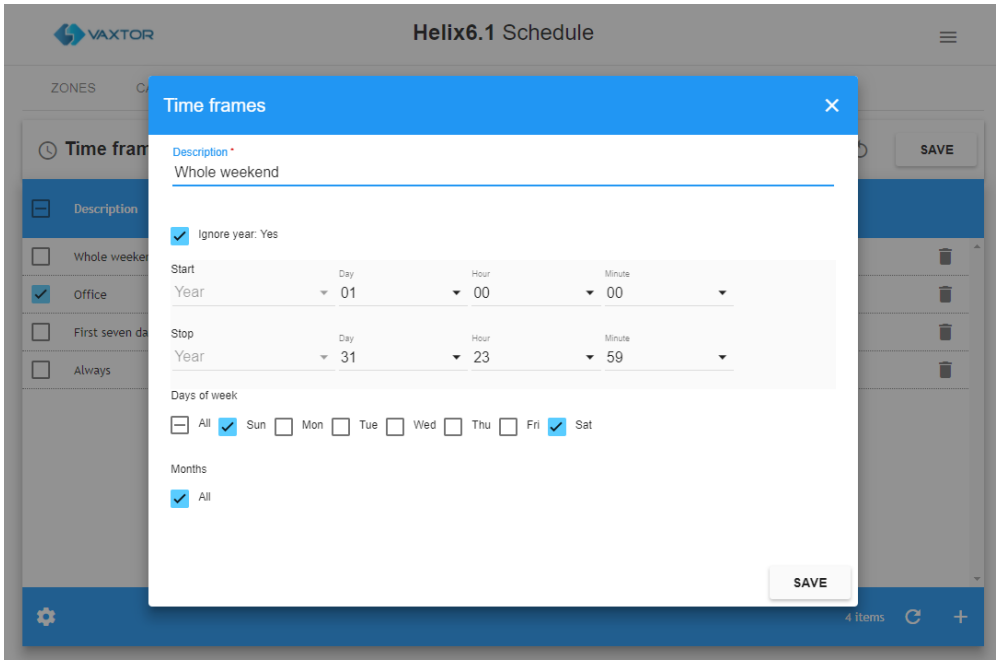
- Select the “Office” default timeframe and click “Save”.
- Create a new schedule for the service staff. We will call this schedule “Staff schedule”.
    - Give the schedule the desired duration. In this example, will be this year.
    - Set the schedule as not global.
    - Click “Save”



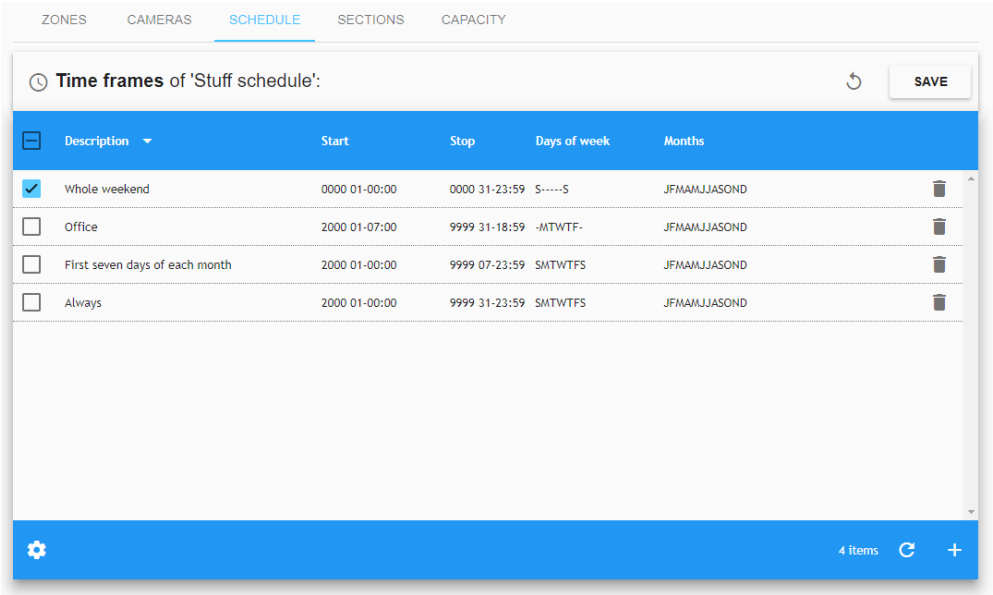
- Click on the “Clock” icon in the “Staff schedule” row to open the timeframe interface.
- Create a new time frame that covers the whole weekend.
    - Set the description as “Whole weekend”
    - Enable ignore year.
    - Set days from 01 to 31.
    - Set hours from 00 to 23.
    - Set minutes from 00 to 59.

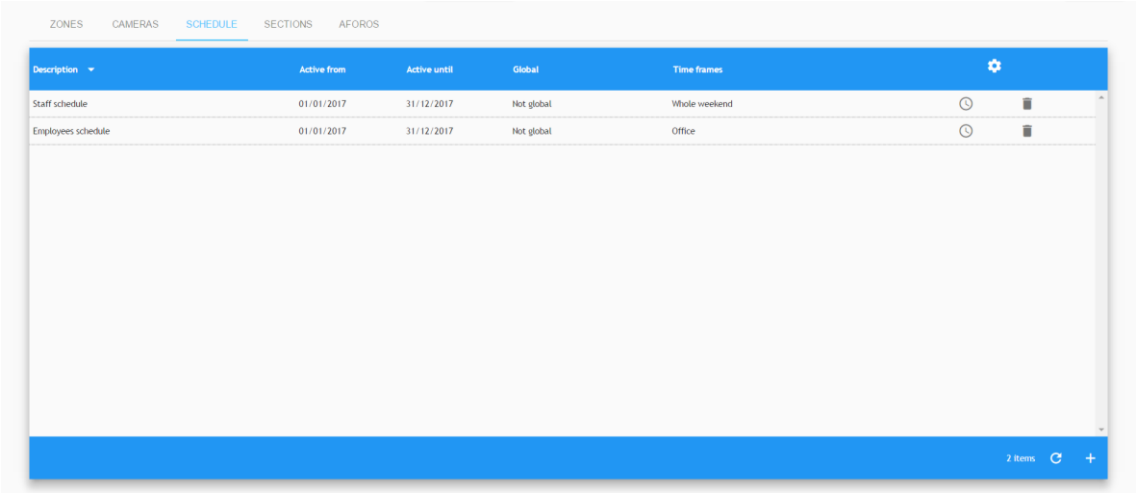
- Set Days of Week to “Sun” and “Sat” only.
- Set Months to All.

- Click “Save”

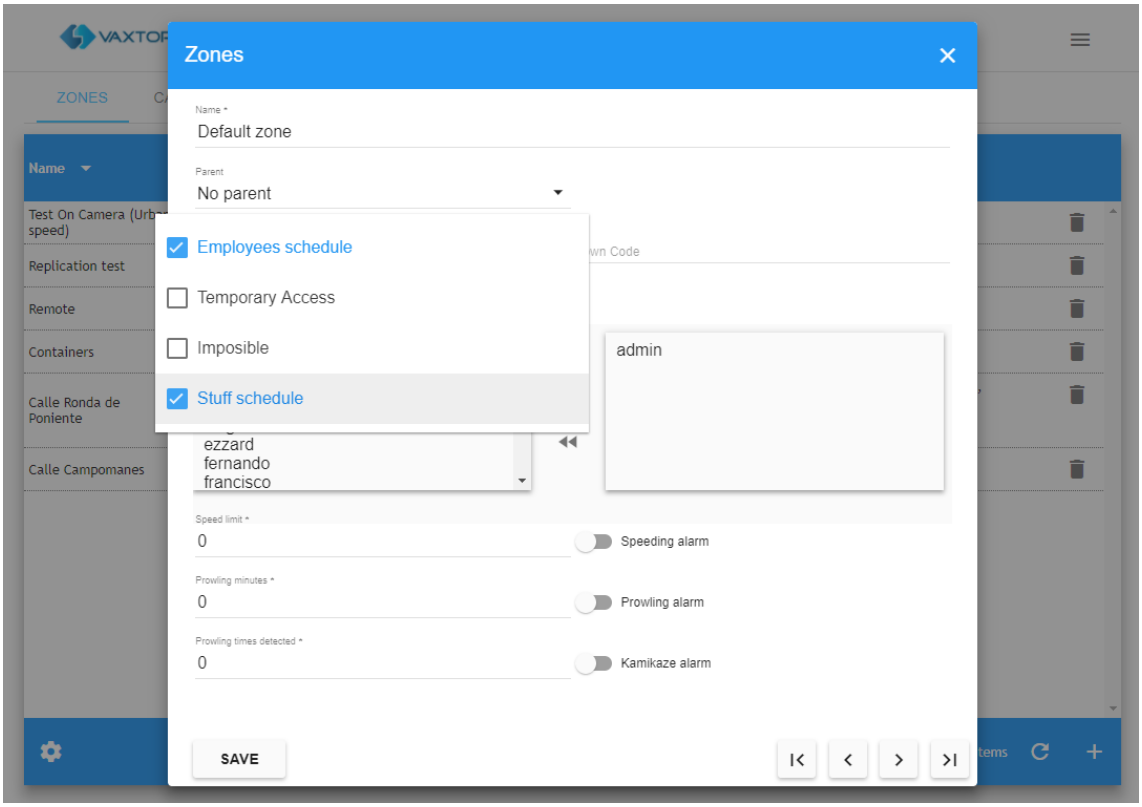


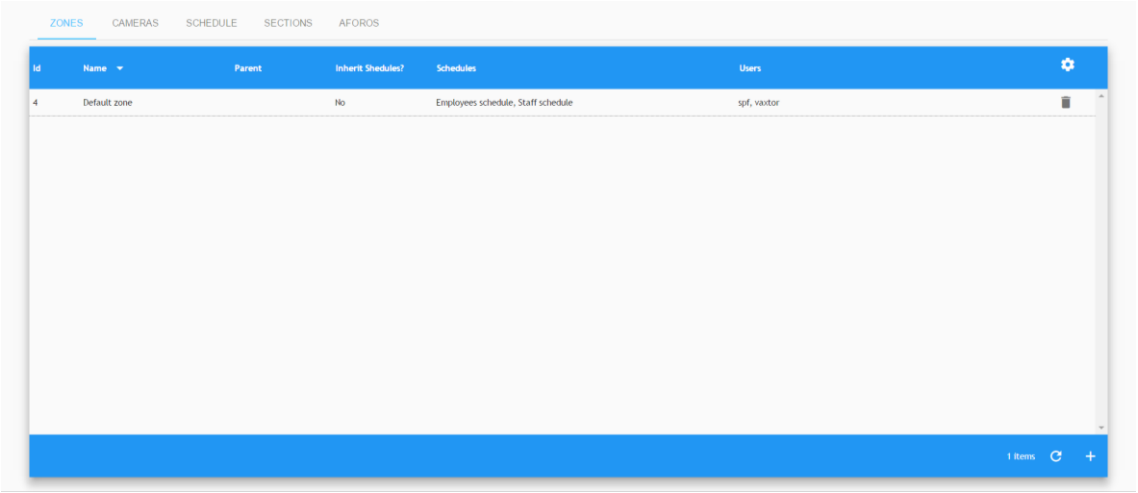
- Enable “Whole weekend” timeframe for the “Staff Schedule” and click “Save”.





- Go to “Zones” inside the “Configuration” menu and edit “Default zone” (click on it).
- Enable both schedules on the zone and click “Save”.

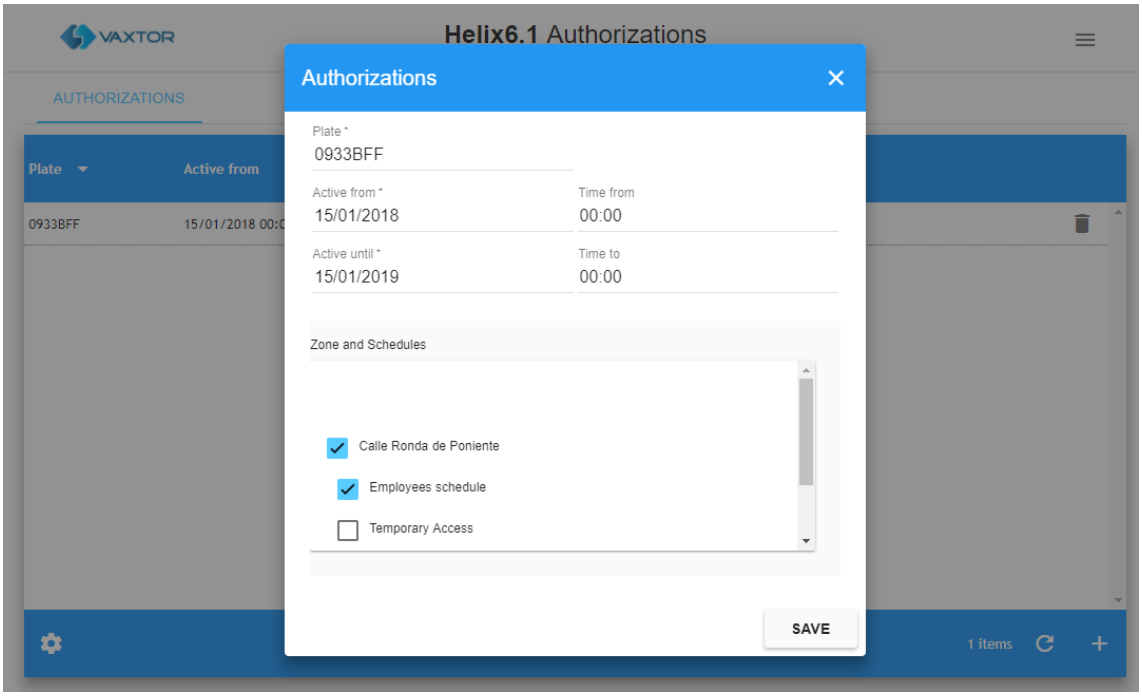




Now we need to create the authorizations associated with the users. We will create two authorizations. User “Tom” will be an employee with plate number “ANM7386” and user “Brenda” will be service staff with plate number “PNG123”. User “Max” is both an employee and a service staff user with plate number “2345ZZW”

- Go to the Authorization menu to create a new authorization.
- Add a new Authorization for the plate “ANM7386”.
    - On the Zone and Schedule menu enable “Default zone” and “Employees schedule”
- Click Save.

- Repeat the operation for the user “Brenda”.



- Repeat the operation for user “Max”.

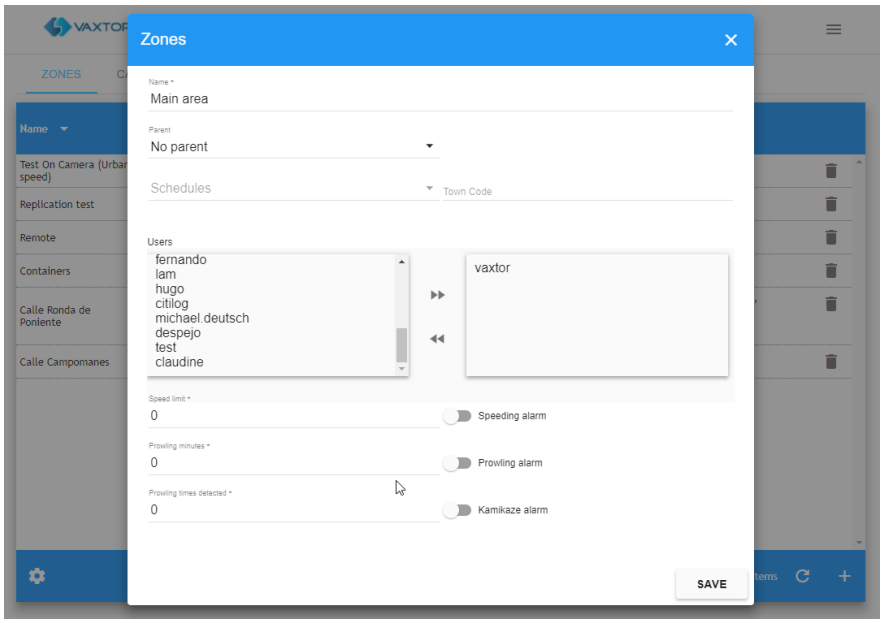
12.2 Configuration based on a zone

Scenario conditions:

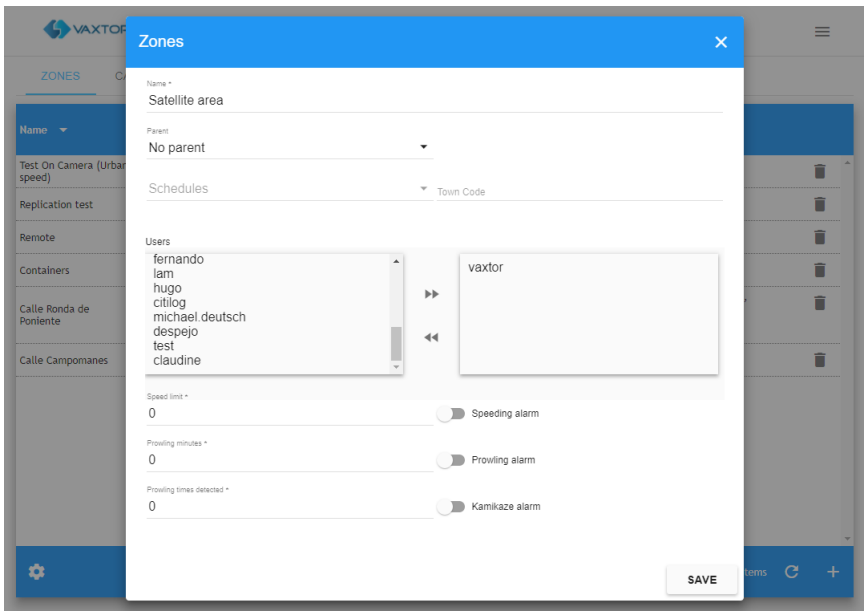
- Helix-6 system will be used as an access control system.
- There is a main area where every car shall be allowed to pass during office hour.
- There is a satellite (nest) area where only “Employees” shall be allowed to enter.

Configuration:

- Create a new zone. We will call it “Main Area”. Click “Save”

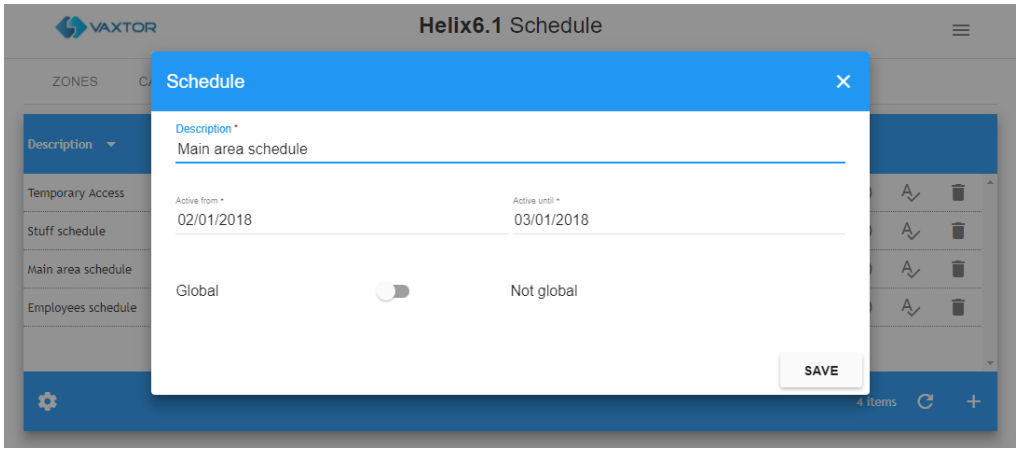


- Create another zone. We will call it “Satellite area”. Click “Save”

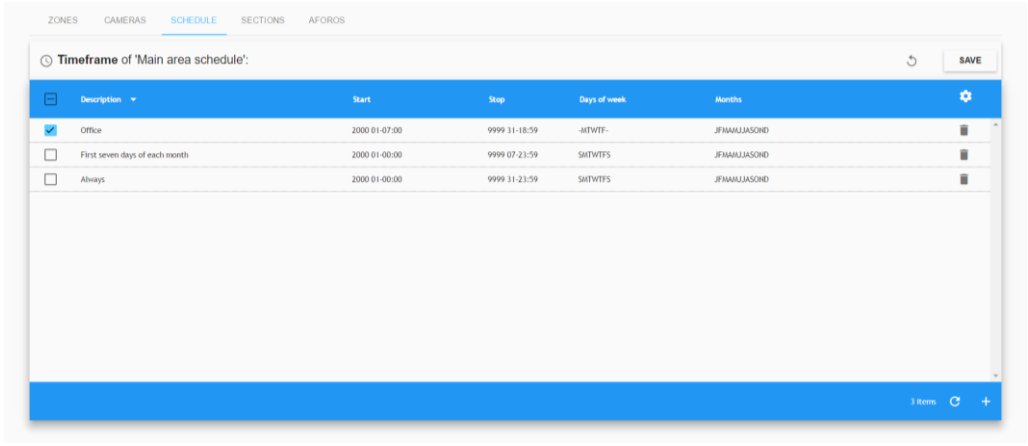


- Create the desired cameras and assign them to the zones.

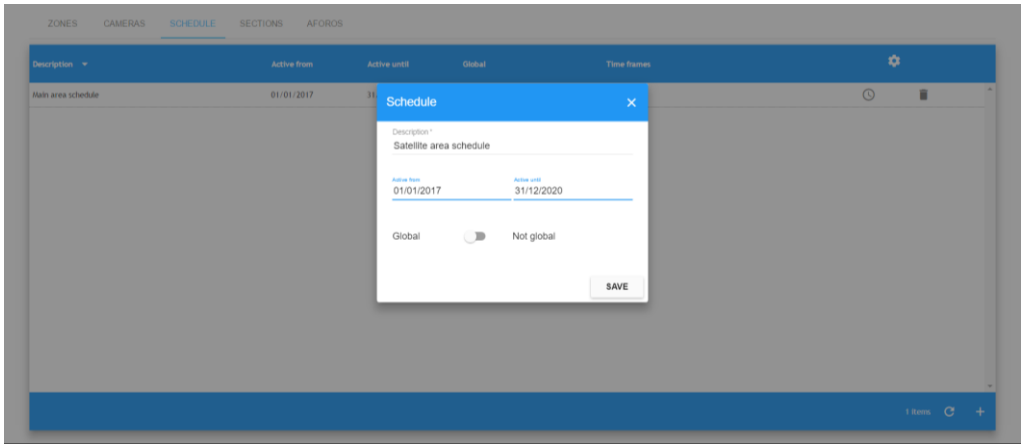
- Create a new schedule. We will call it “Main area schedule”.
  - Define the duration from 2017 to 2020.
  - Set the schedule as global.
  - Click “Save”.



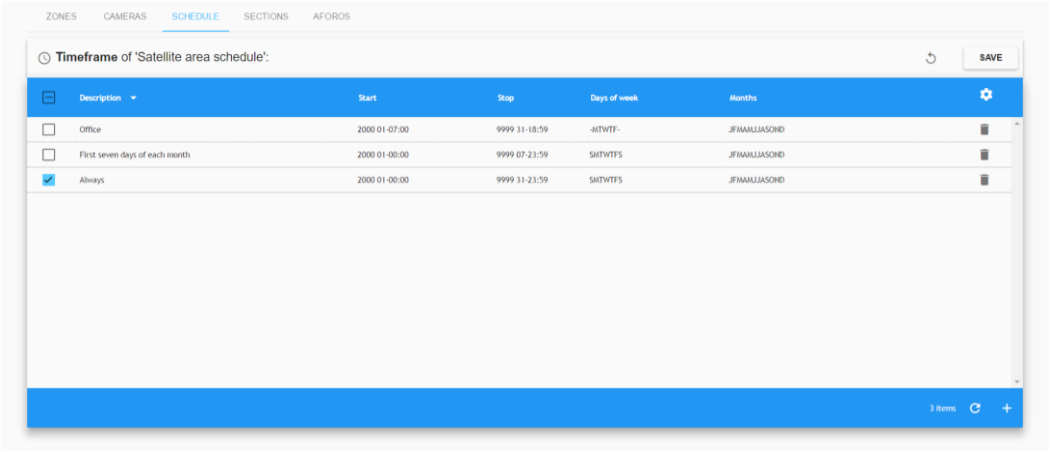
- Click on the timeframe icon and enable the “Office” timeframe. Click “Save”.



- Create a new schedule. We will call it “Satellite area schedule”.
  - Set the direction until 2020.
  - Make this schedule not global.
  - Click “Save”.



- Click on the timeframe icon for the new schedule and enable the “Always” timeframe. Click “Save”.



- Assign the schedule “Main area schedule” to the zone “Main area”.
- Assign the schedule “Satellite area schedule” to the zone “Satellite area”.
- Create the desired authorizations for the “Employees” on the Satellite area.

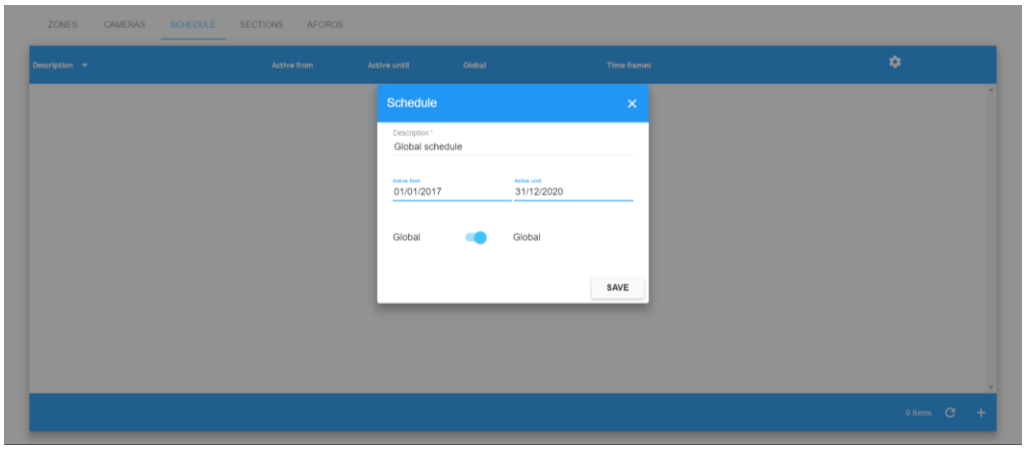
12.3 Configuring different zones inheriting programming

Scenario conditions:

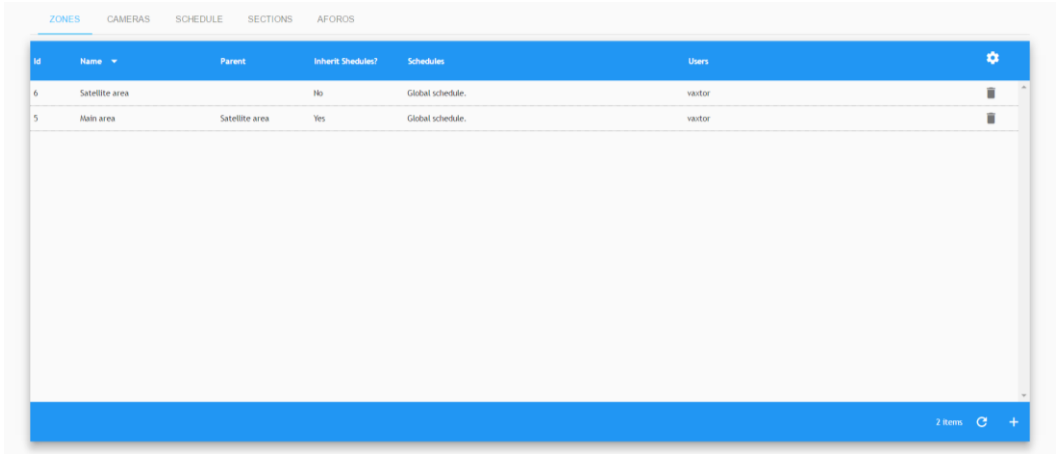
- Helix-6 will be used as an access control.
- There is a main area where every “Employee” and “Manager” car shall be allowed to pass.
- There is a satellite area where only “Manager” cars shall be allowed to enter.

Configuration:

- Create a new global schedule. We will call it “Global schedule”.
  - Define the duration from 2017 to 2020.
  - Set the schedule as not global.



- Create a new zone called “Satellite area”.
  - Assign the “Global schedule” created to it.
- Create a new zone called “Main area”.
  - Assign the “Global schedule” created to it.
  - Assign “Satellite area” as a parent of this area.
  - Enable Inherit Schedules.



The main difference in this scenario is that any authorization given for the satellite area will also apply to the Main area, even if it is not specifically enabled for this zone by the authorization itself.

13 APPENDIX

When configuring the alerts via email, there are several reserved words allowing you to customize the message:

$timestamp$	Sequence of characters denoting the time and date the reading event occurred, the format is "yyyy-MM-ddTHH:mm:sszzz”
$platenumber$	Returns the license plate number read.
$cameraname$	Indicates the name of the camera that made the recognition.
$cameraid$	Returns camera ID.
$confidence$	Provides the trust data of the read-in license plate.
$charheight$	Indicates the height of the character on the license plate.
$latitude$	Returns the latitude coordinates of the read plate.
$longitude$	Returns the logitute coordinates of the read plate.
$speed$	It returns the speed of the vehicle registered by the recognition system.
$zone$	Returns the area in which the plate was read.
$zoneid$	Return zone ID in which the plate was read.
$description$	Adds the alarm description in case of a blacklist trigger.
$comments$	Adds the comments of the alarm from a blacklist trigger.
$hitcount$	Shows the number of the hits for this plate on the blacklist.