

# myTEM SmartHome

myTEM ProgTool



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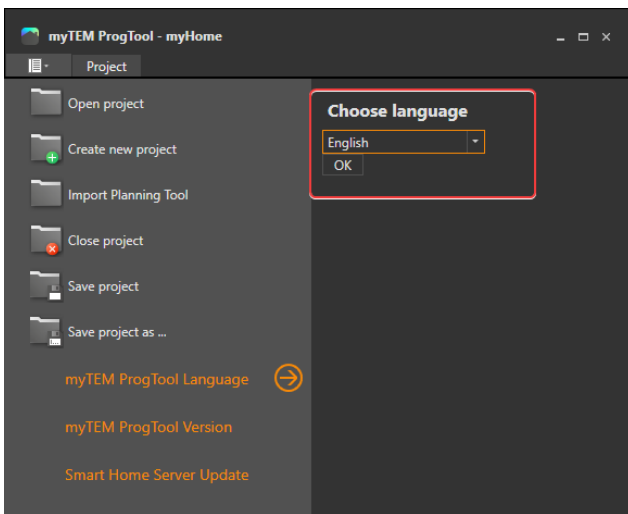
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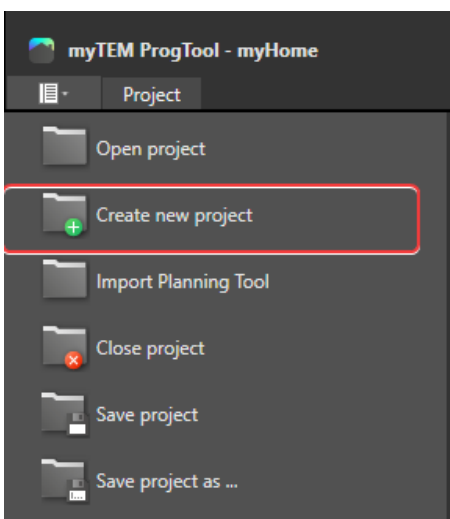
## 1 Select language

Select your desired language. After the first use of the ProgTool, the system recognizes the last selected language as the default language. The language can be changed at any time.



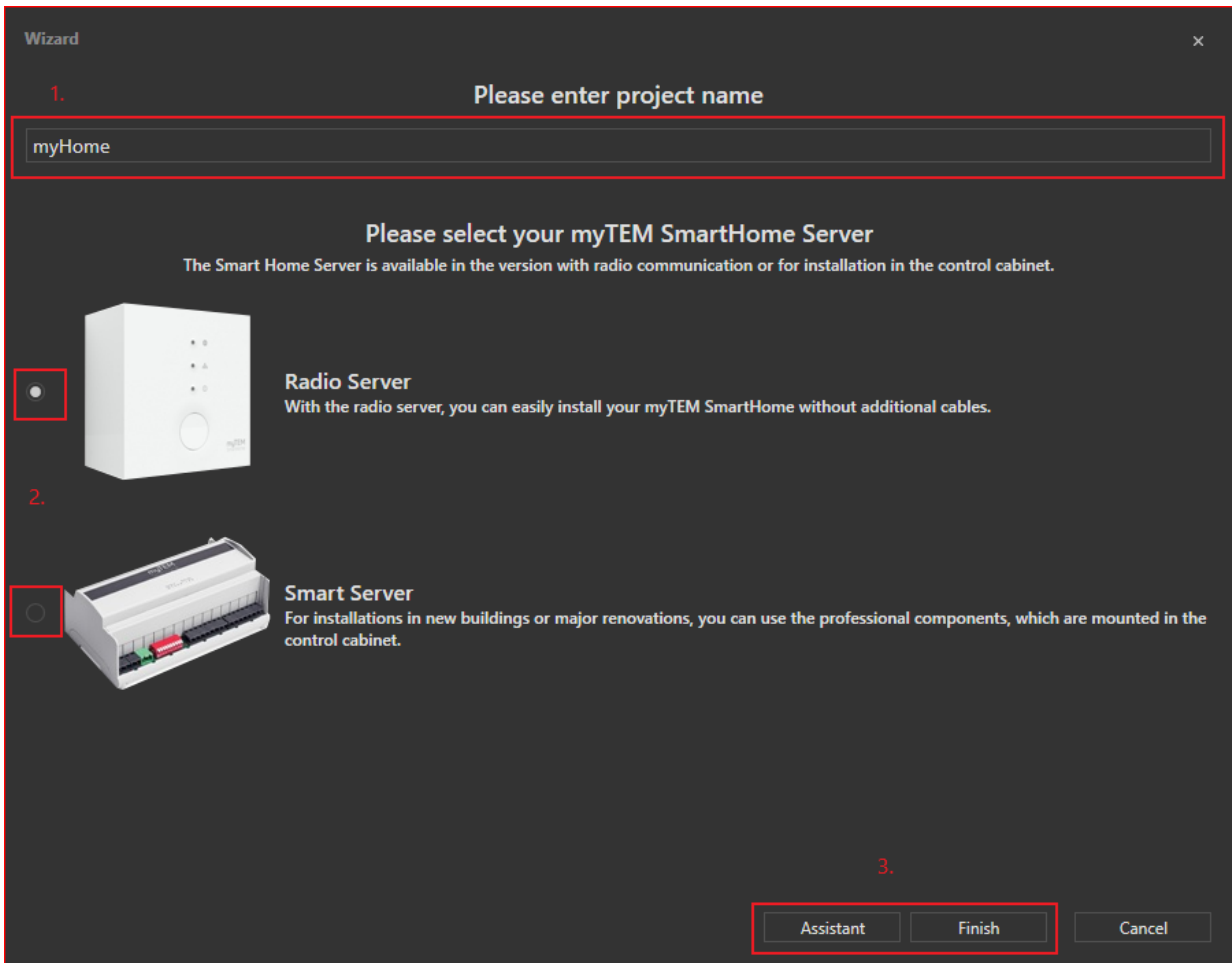
## 2 Create new project

To create a new project, select the "Create new project" menu



A new window opens, where the first settings can be made.

1. Enter project title / name
2. Select server type. Server type can also be changed later.
3. Select whether the project should be created using the assistant (chapter 2.2). If this is not selected, an "empty" project will be created.

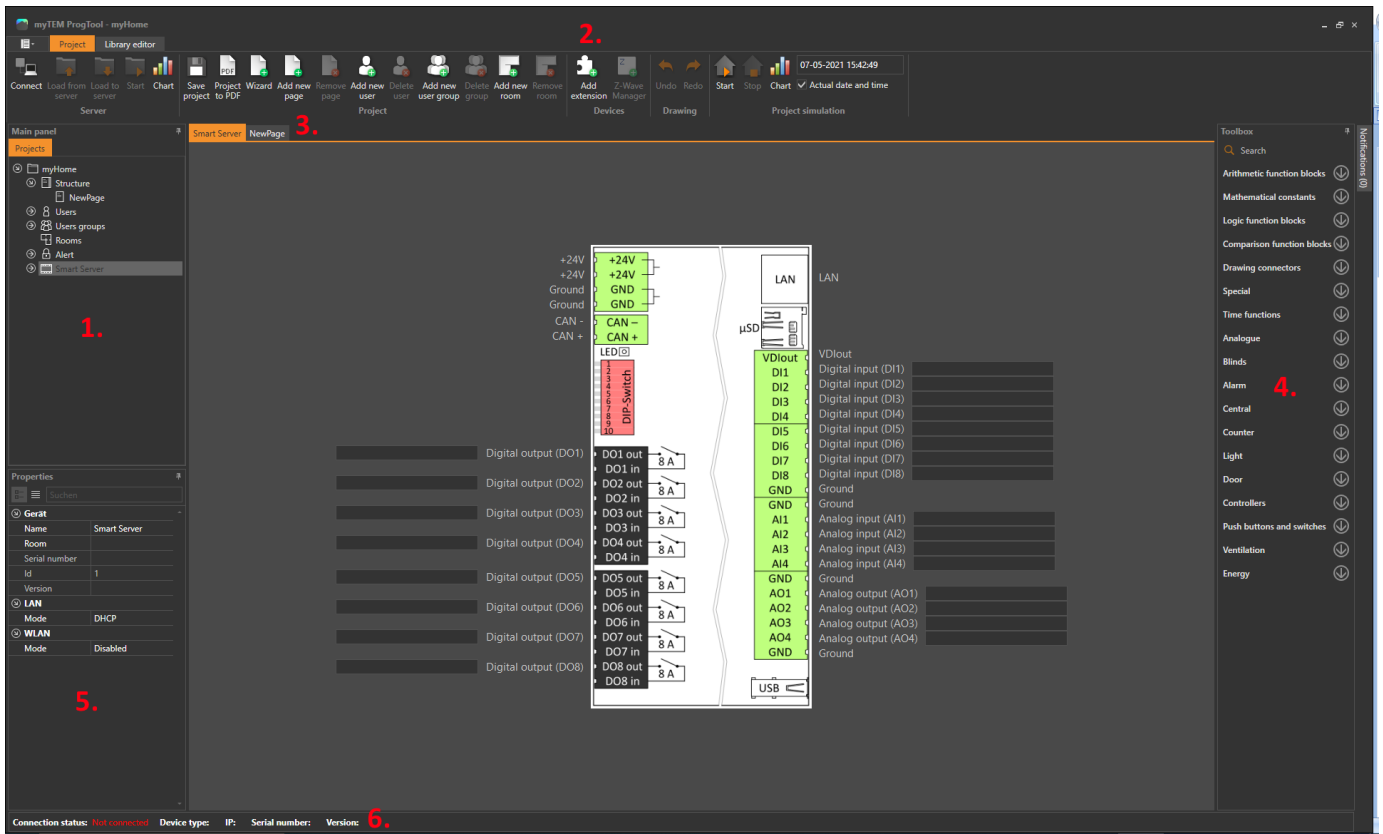


## 2.1 First steps

### 2.1.1 Program overview

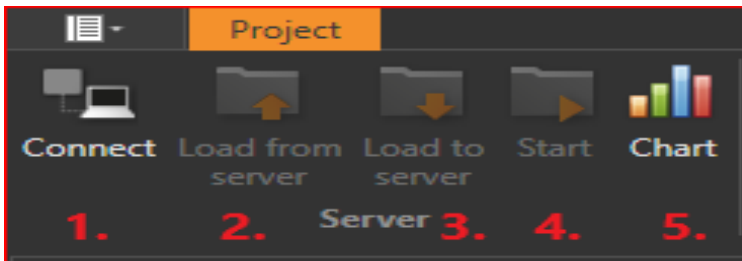
The tool structured into the following main menus:

1. Project tree: For the management of the project, it means rooms, users, devices, drawing pages etc.
2. Menu list (selection)
3. Drawing pages
4. Function library with function blocks
5. Properties window: This changes depending on the selected element in the drawing
6. Status bar: Displays the connection status to the Radio Server or Smart Server



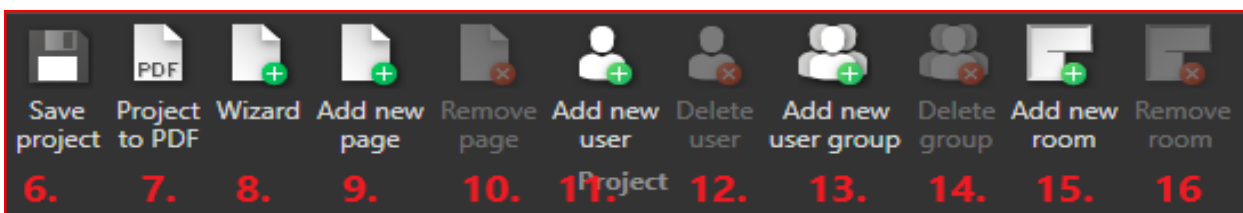
### 2.1.2 Menu list

#### Server- menu



1. Connect to a Server
2. Load project from Server (Server → PC)
3. Load project to Server (PC → Server)
4. Start real-time view
5. Open record of current data

#### Project-Menu

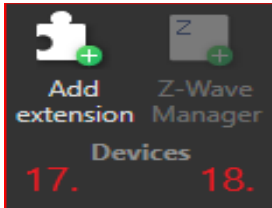


6. Save project
7. Create a PDF export from the project



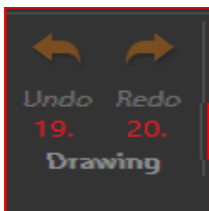
8. Start project assistant
9. Add new drawing page
10. Remove selected drawing page
11. Create a new user
12. Remove selected user
13. Create new user group
14. Remove selected user group
15. Create new room
16. Remove selected room

#### Devices-menu



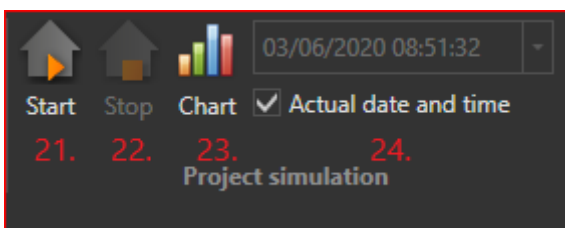
17. Add extension modules, gateways
18. Start Z-Wave manager (only available with a Radio Server or Radio Base)

#### Drawing Menu



19. Reverse last step
20. Repeat last step

#### Simulation Menu

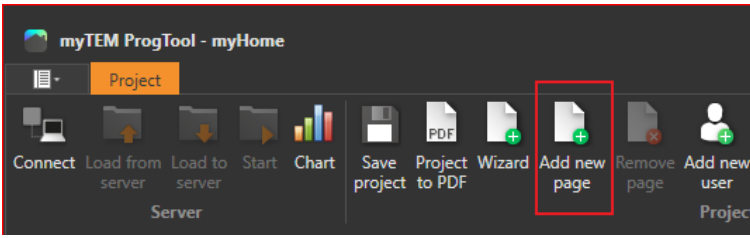


21. Start simulation
22. Stop simulation
23. Open diagram of simulation
24. Set simulation time and date

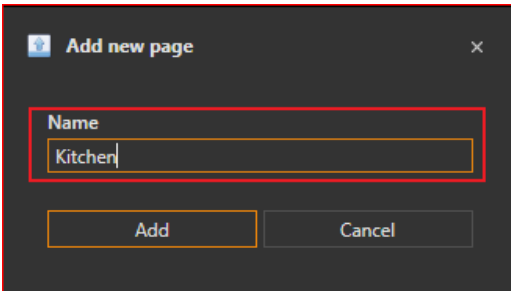
### 2.1.3 Create a new drawing page

Any number of drawing pages can be created. It is recommended to create one drawing page per room.

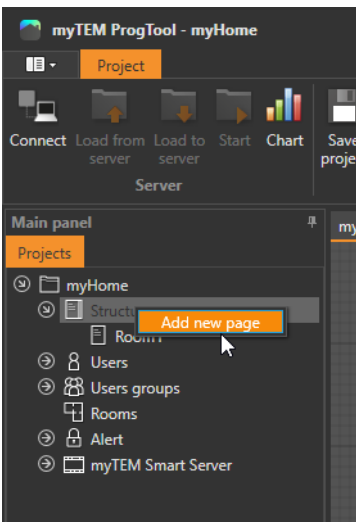
Via the menu "Add new page" a new drawing page is created.



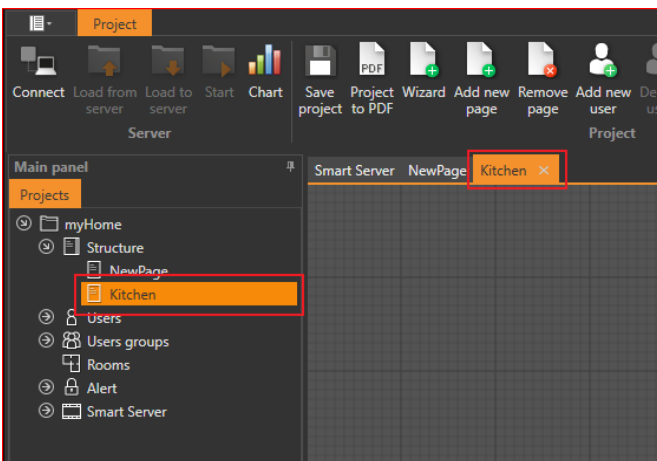
Enter the room name in the field; after clicking on the "Add" button, a new drawing page is created.



A new drawing page can also be made in the project tree by clicking with the right mouse button on "Structure".

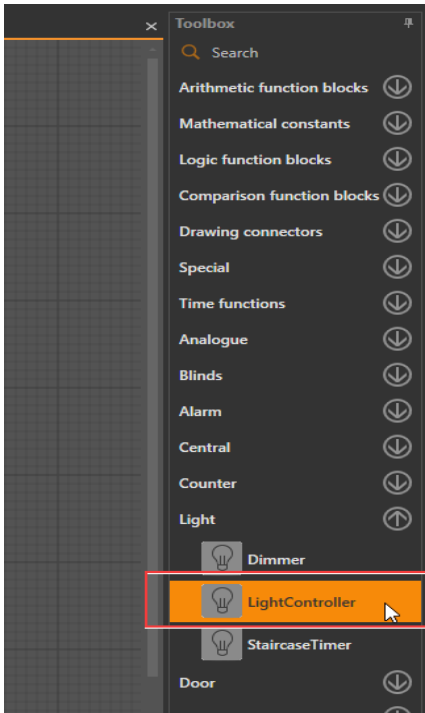


After adding the drawing page, a new tab is created and the drawing page is created.

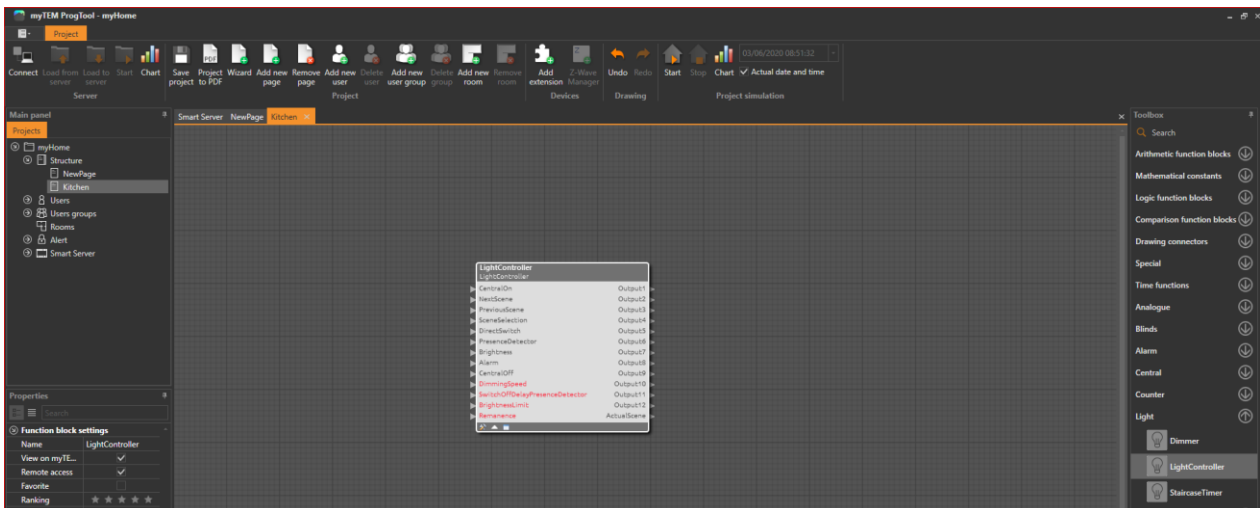


### 2.1.4 Add function block

To add a function to the drawing page, look for the desired function on the right side by expanding the categories or using the search function.

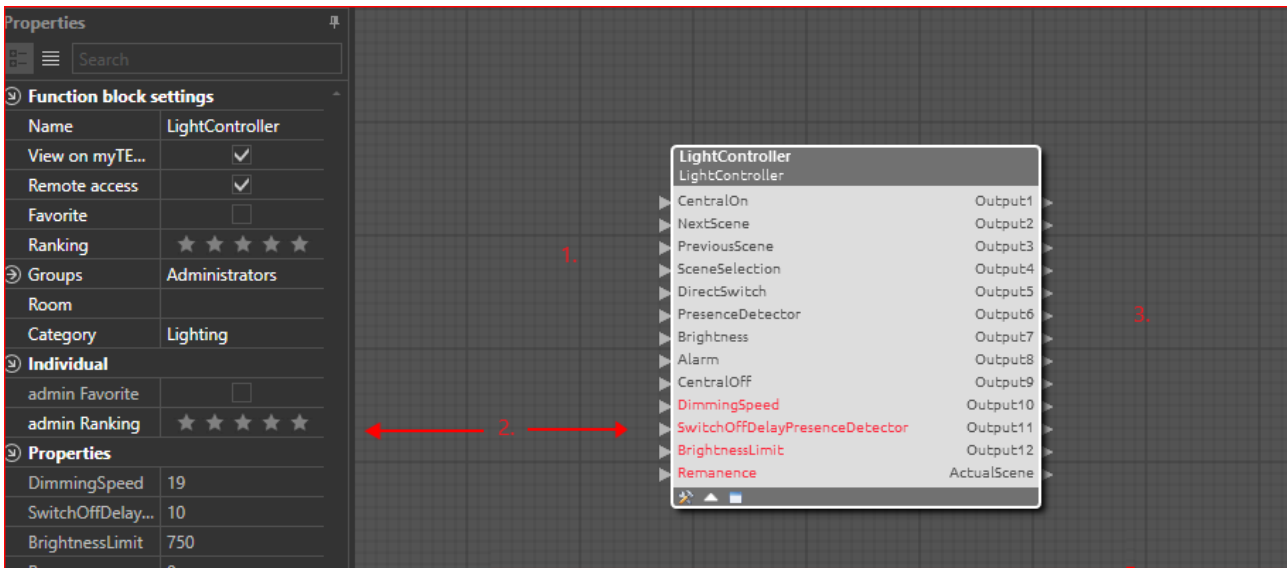


After you have found the desired function, drag or click it with the mouse button into the drawing page. The new block can be placed at any location.

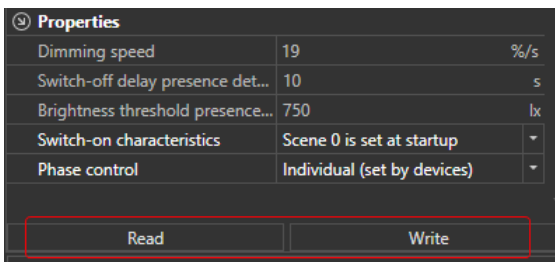


### 2.1.5 Structure of the function blocks

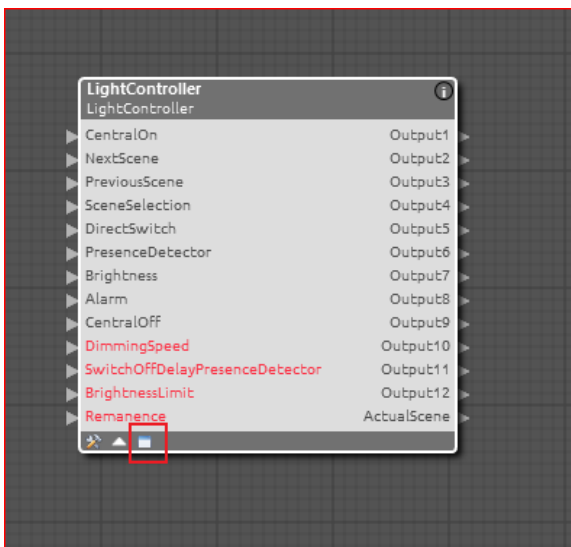
1. Inputs
2. Properties. These can be adjusted in the properties window. Alternatively, properties can be connected like Inputs (chapter 2.1.6)
3. Outputs



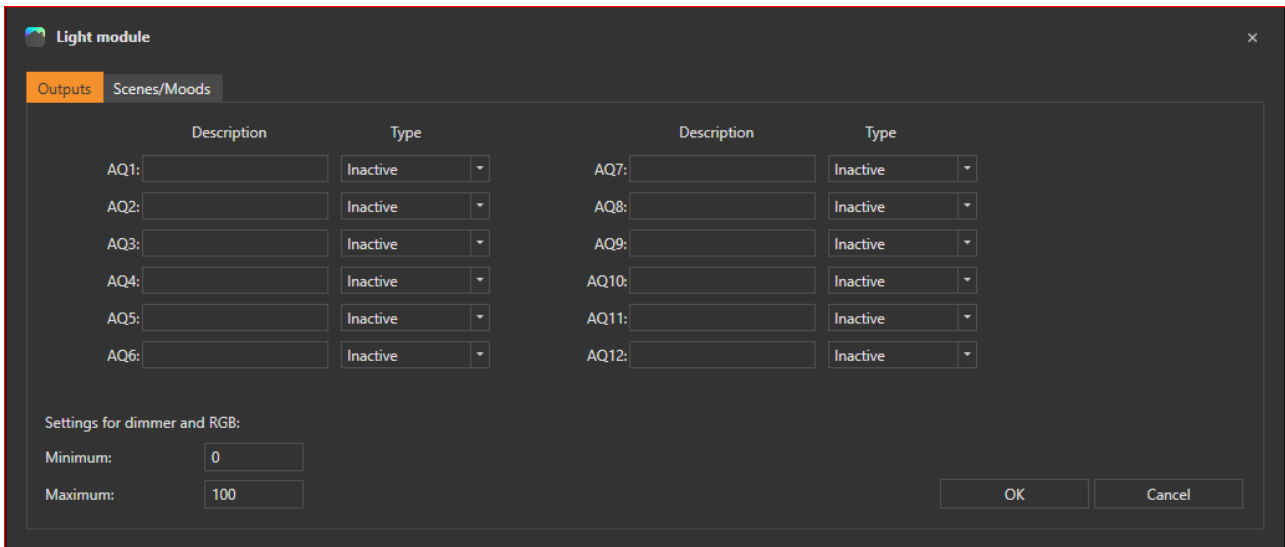
If a server is connected, the properties can be adjusted directly by pressing Write in the server, without having to load the project again to the server. With "Read" the current function block settings can be loaded from the server. This function is only supported for function blocks that can be displayed in the myTEM app.



If a function block has its own configuration page, this is indicated by the symbol framed in red. You can open the configuration by clicking on the icon or by double-clicking anywhere on the function block.

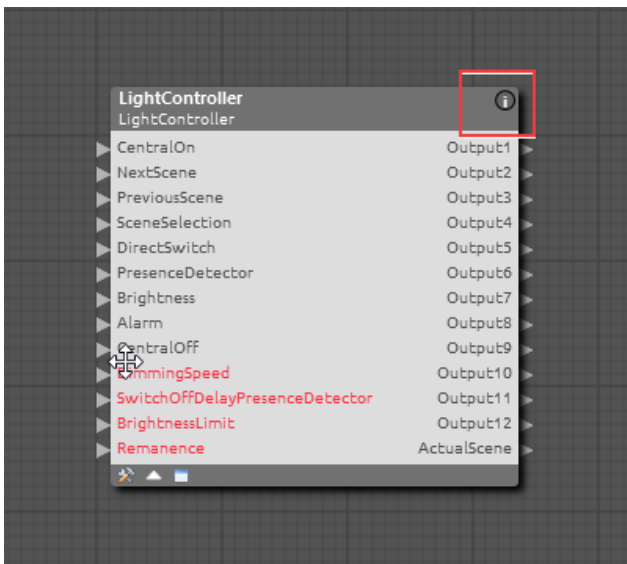


Function block-specific settings can be made in the configuration.



### 2.1.6 Description of function blocks

For each function block there is a description, which can be opened with a click on the upper right side.



1. The description can be exported to a PDF file
2. Description of the Inputs
3. Description of the properties
4. Description of the Outputs
5. Description of function
6. Names of Inputs, Outputs or properties
7. Description of Inputs, Outputs or properties
8. Possible adjustment range of the properties
9. Unit

1. Export

### Blinds

**Inputs:**

Trigger	Single button control up/down. Second pulse stop movement		
Trigger Down	Two buttons controls move down trigger		
Trigger Up	Two buttons controls move up trigger		
CompletelyDown			
CompletelyUp		2.	
Set Blinds	Set Blinds Position for specific value (0-100%)		%
Set Slats	Set Slats Position for specific value (0-100%)		%
Stop	Stop/block blinds movement		
DisableShading			
Shading On	Activate shading, move blinds down and set slats to given position		
PermanentShadingSignal			
TresholdShading			
CentralUp			

**Settings:**

Move down duration time	Moving blinds down duration time	6.	7.	8.	9.
Move up duration time	Moving blinds up duration time			5	s
Slats Move Duration	Changing slats orientation full duration time			5	s
MinImpulsDurationCompleteRun				0	s
Change direction lock time	Time pause between movement direction change			0.1	
ShadingBlindsPosition				0	to 100
Shading Slats Position	Position of slats during shading (0-100%)	3.		0	to 100 %
ThresholdShadingOn				0	to 100000
ThresholdShadingOff				0	to 100000
FilterTimeConstant				0	
EmergencyOverride					
Remanence				0	to 2

**Outputs:**

Is Moving Down	On hen blinds moving down		
Is Moving Up	On when binds moving up		
Blinds Position	Current position of blinds (0-full up, 100-full down)	4.	%
Slats Position	Current position of slats (0-horizontal, 100-vertical)		%
FilteredTresholdShadingValue			

**Description:**

Trigger input can be used for one button blinds control. Each impulse (change from 0 to 1) change direction move up/down. TriggerDown and TriggerUp can be used for two buttons blinds control. Second impulse on each trigger during movement stop blinds.

IsMovingUp/Down outputs are activate during movement of blinds. Blinds full down duration time can be set in parameter MoveDownDuration

BlindsPosition output shows current position of blinds, where 0 – fully up, 100 – fully down. SlatsPosition output shows current position of slats, where 0 – horizontal, 100 – vertical.

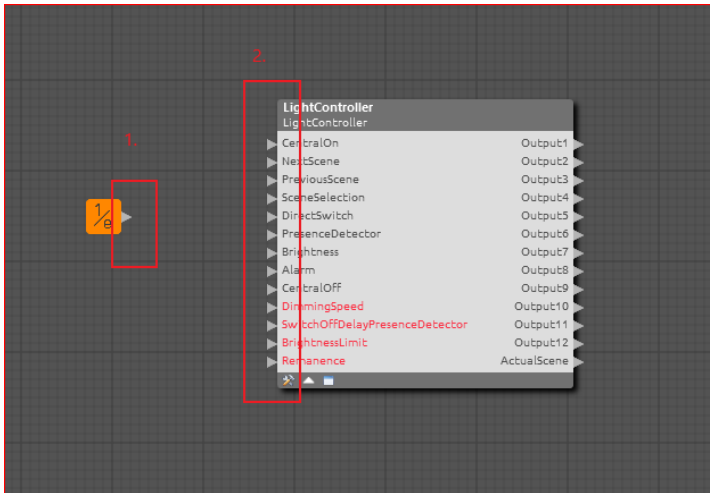
Stop input while active block any triggers actions and stop movement of blinds. BlockDown and BlockUp inputs can be use as light barriers to prevent move up/down blindswhile set to 1.

PulsePause parameter defined pause time between two trigger pulses while block is not reacting for new trigger. ChangeDirectionLock parameter define pause time needed for change motor direction movement. During this time triggers which change movement direction are ignore.

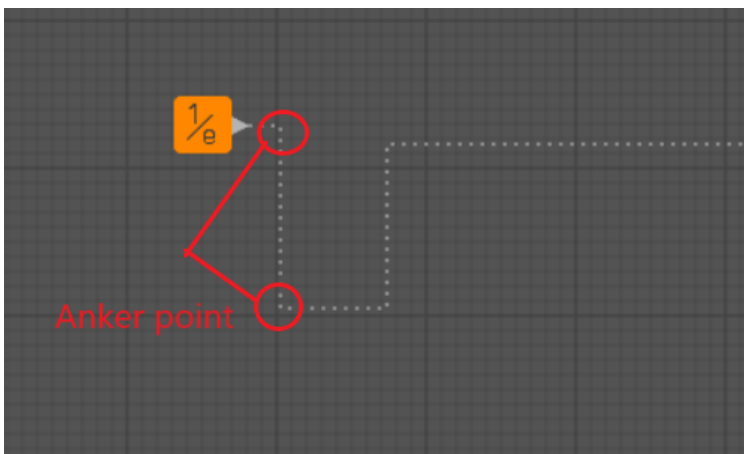
ShadingOn input activate shading: blinds go fully down and than slats set to position given in

### 2.1.7 Connecting function blocks

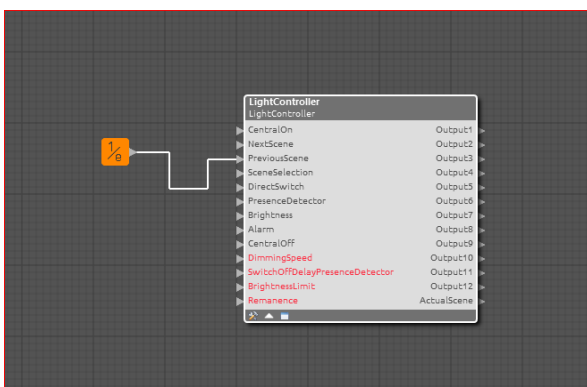
The blocks are connected to each other via the respective Inputs and Outputs. On the right side of the block are the Outputs (1.) and on the left side there are Inputs (2.). Only one Output can be connected to a Input. But more than one Input can be connected from one Output.



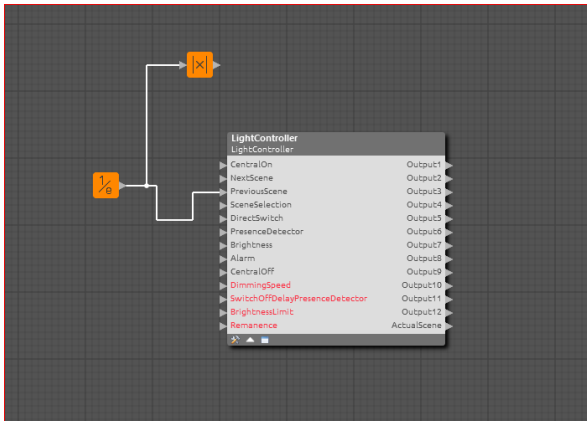
If you move the mouse pointer over an Input or Output, the mouse pointer changes to a pen. This means that a connection can be drawn. Click once to start the drawing process. A dashed line shows the course of the connection. If you click again, an anchor point can be set to determine the connection direction. The process is complete when an input is clicked. This turns the dashed line into a solid line and the connection is drawn.



Completed connection



The individual line segments can be moved as desired with a held mouse click. If you move the mouse pointer onto the line, the pen appears again, with which you can start a new connection. In this way, branches can be created as well as connected with further function blocks.



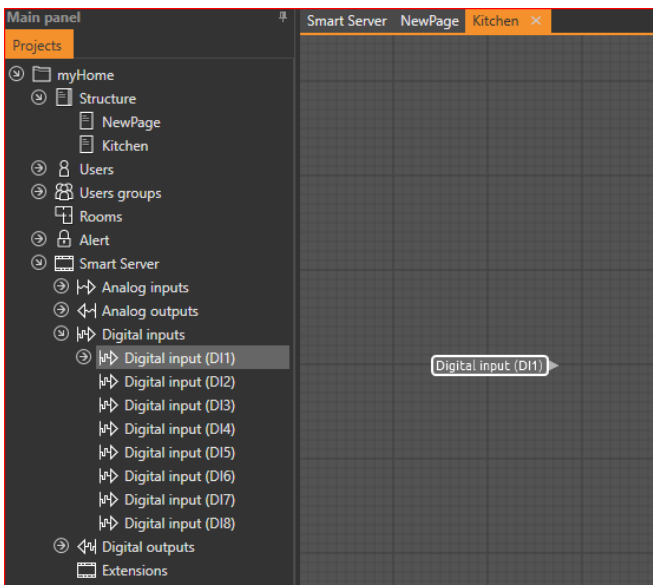
### 2.1.8 Delete connection

By selecting a connection segment, it can be deleted with the "Delete" button. Alternatively, you can click on the corresponding line with the right mouse button and delete the connection by pressing "Delete".

### 2.1.9 Connect device inputs / outputs

Adding and managing devices as well as the settings of Input / Output are described in chapter 3.

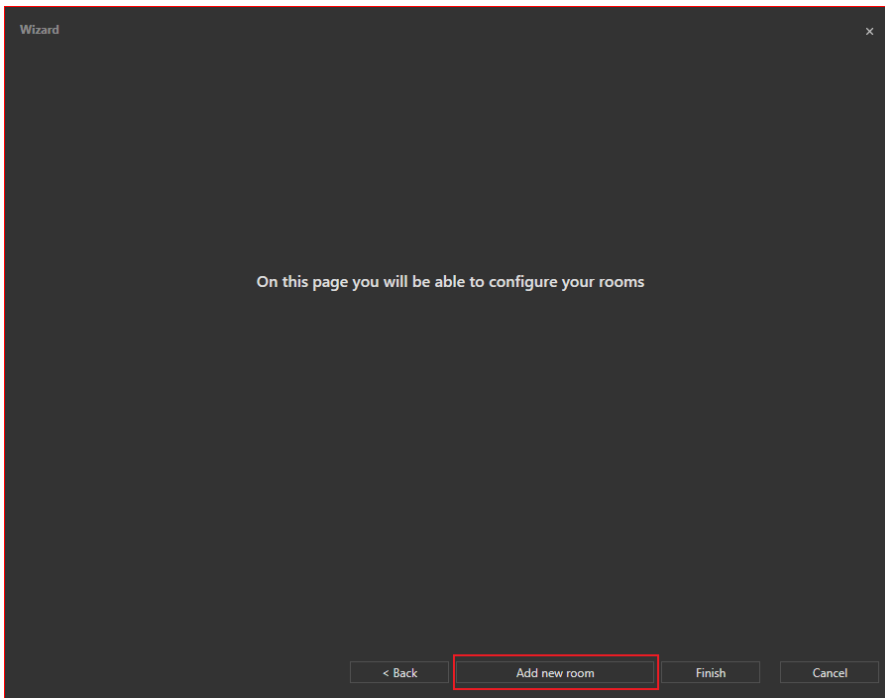
To insert a device Input / Output in the drawing, select the element and drag it to the drawing page with a holding mouse button. At the desired position, release the mouse button. Now the Input / Output is displayed like a drawing block and can be connected and used at the same time



## 2.2 Create a project with the Assistant

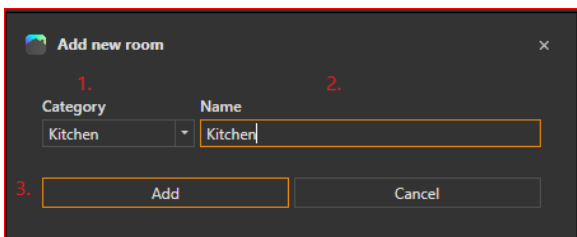
First, the rooms have to be defined. Click on "Add new room" to create a new room.





### 2.2.1 Add new room

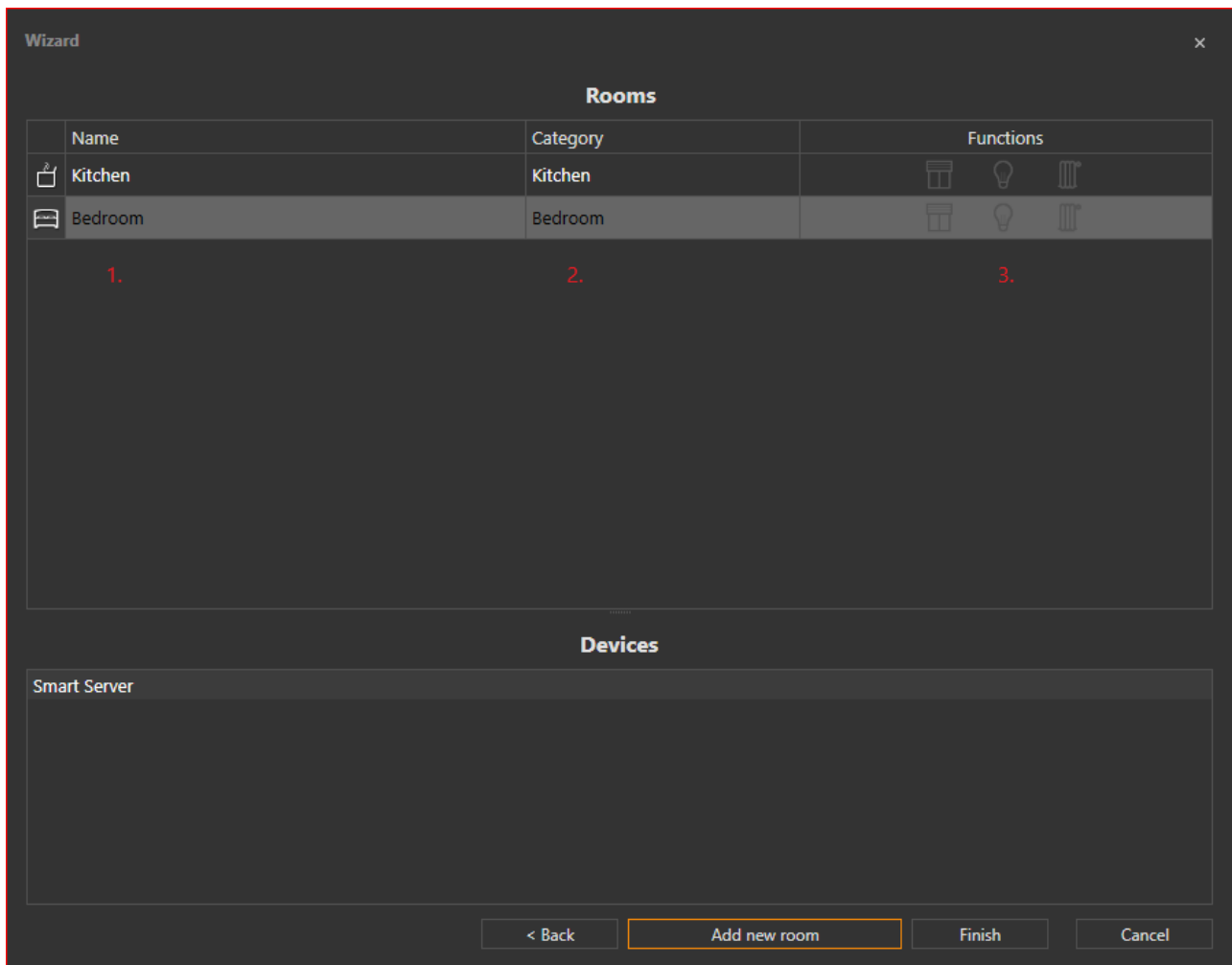
1. Select category of the room: The icon is used also for display in the mobile app, among other things. You can change this later.
2. Name for the room: Can be changed later.
3. Click on "Add" to create the room in the project.



Symbol and name can be selected individually.

After all rooms have been added, a list with all defined rooms appears. Any number of additional rooms can be added.

1. First column = **Name** by clicking in the respective field the name can be changed.
2. Second column = **Category** by clicking a selection menu is activated where you can change the category.
3. Third column = **Functions** of the configured functions. Click on the symbol to start the function assistant. More detailed description from chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**

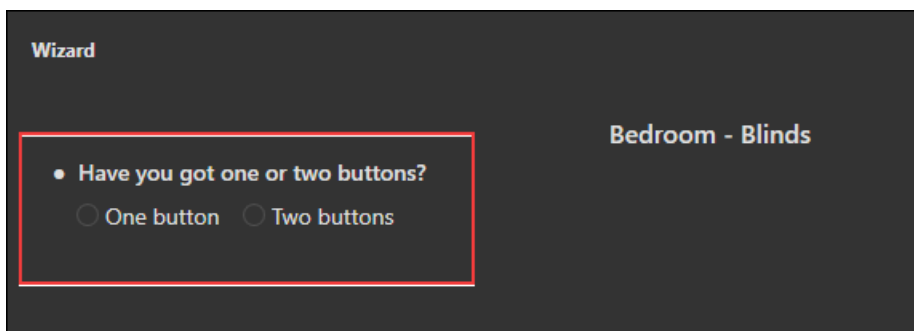


### 2.2.2 Create blind function

To create a Blind function, click on the Blind symbol in the corresponding room.



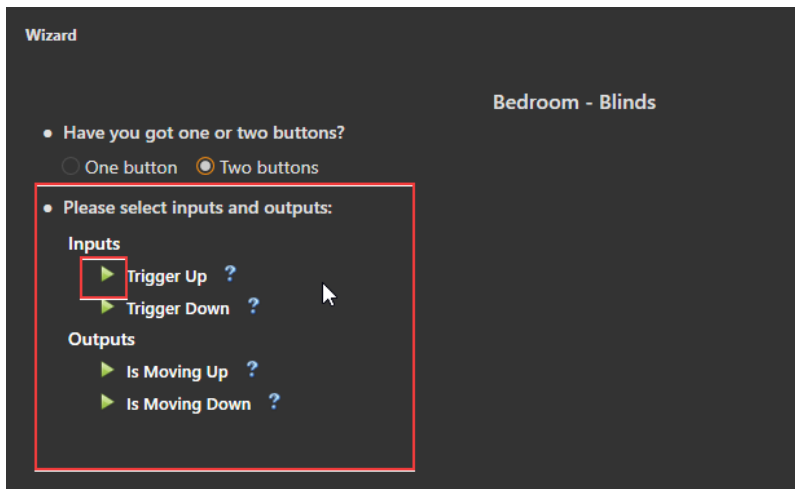
After selecting, the settings for the Blind module are made. The first thing to select is whether the Blind is operated with on or two switch-buttons.



By selecting an Input and Output assignment is displayed. Click on the green arrow to select an Input or Output for the corresponding function

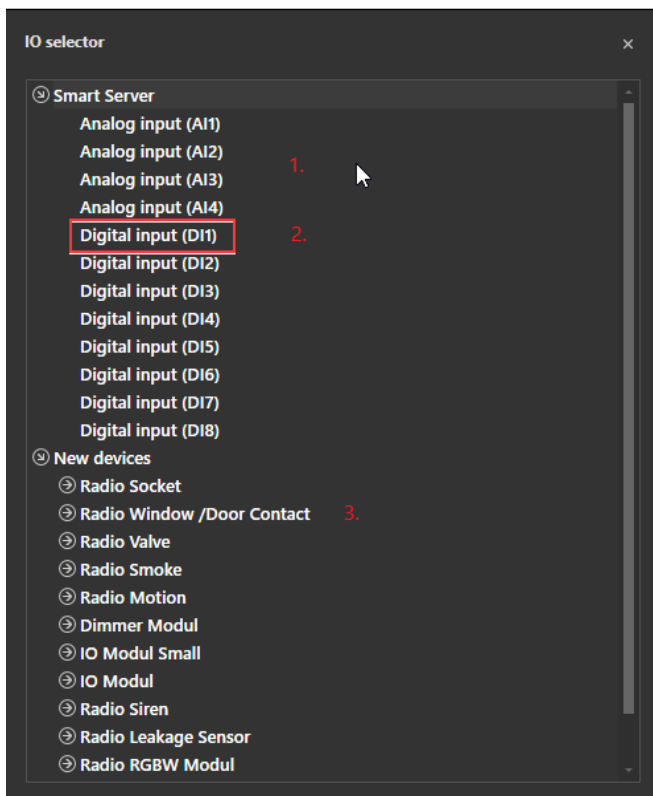
1. Trigger Up: Button for raising the blinds.
2. Trigger Down: Button for shutting the blinds.

3. Is moving Up: Relay for the motor raising
4. Is moving Down: Relay for motor shut down

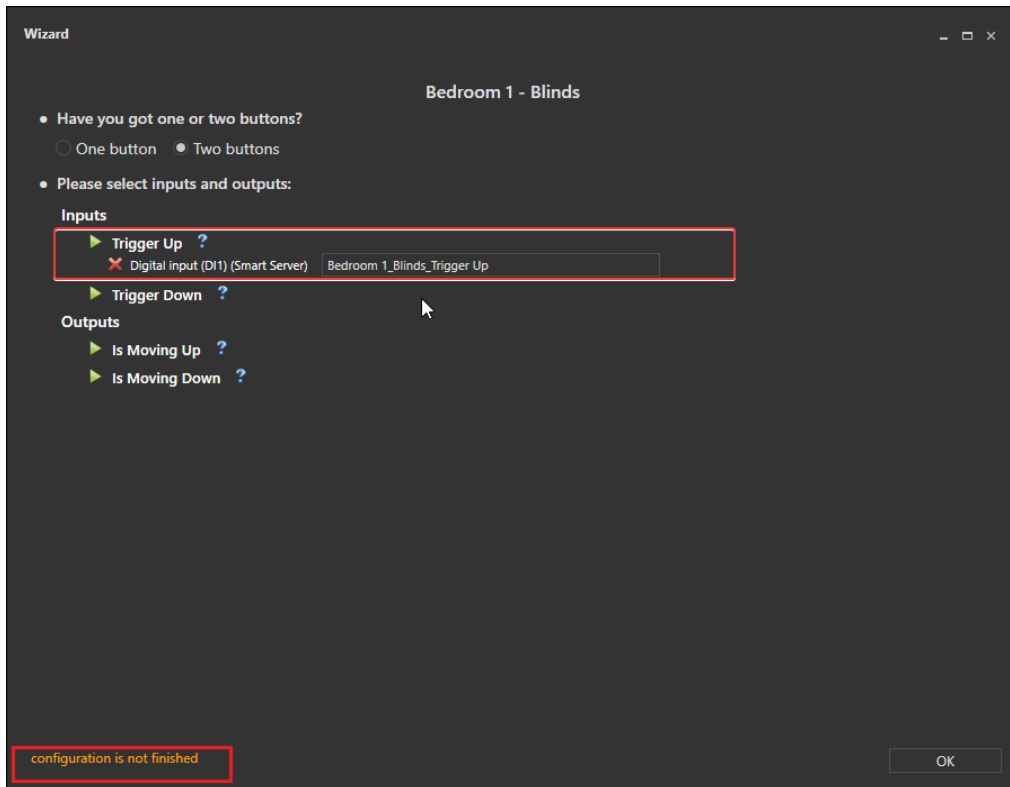


After clicking on the green pointer, a device window opens.

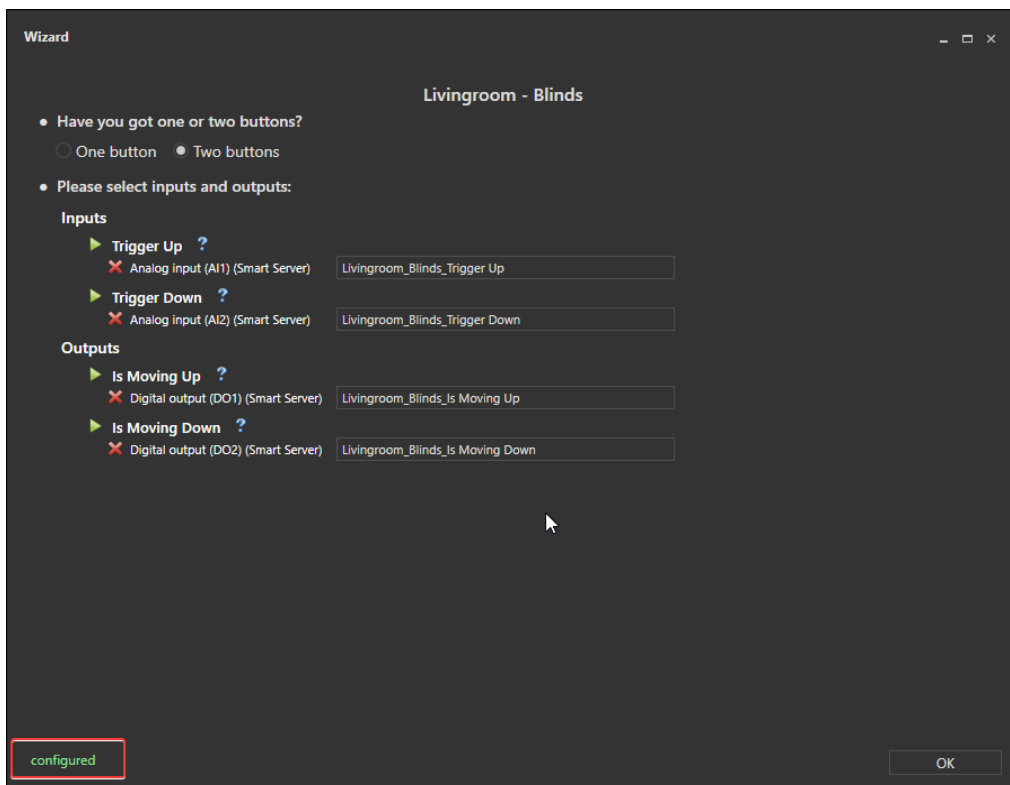
1. Devices available in the project with the them Inputs or Outputs that can be used for the currently selected functions. The view may vary if a Radio Server is selected.
2. New devices, which can be added to the project.
3. With double-click on the desired Input or Output this can be selected.



The selected input or output is now visible in the list. The name can still be changed.



The status of the settings is shown in the lower left corner. If it is orange, not all required Inputs or Outputs have been defined. If everything is configured correctly, the status changes to green. After clicking on “OK” field the function assistant closes.

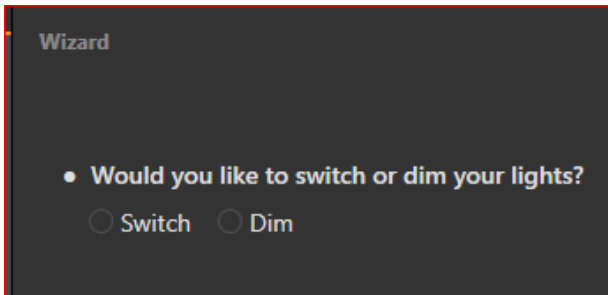


### 2.2.3 Create a light function

To create a light function, click on the light symbol in the room.

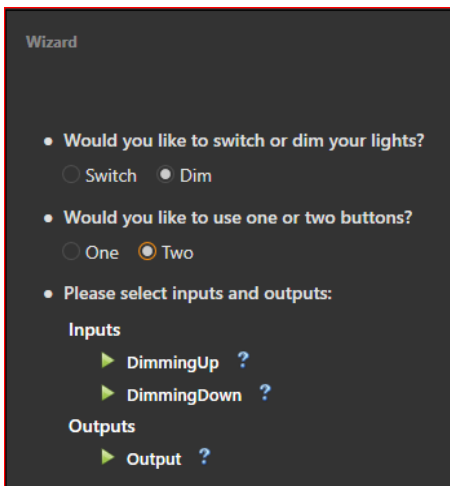


After clicking, the settings for the light module are made. The first think to select is whether the light is dimmable or switchable.



By selection Switch or Dimmer, different menus are displayed, which define the behaviour and settings.

The assignment of Inputs and Outputs is the same as described in chapter **Fehler! Verweisquelle konnte nicht gefunden werden..**

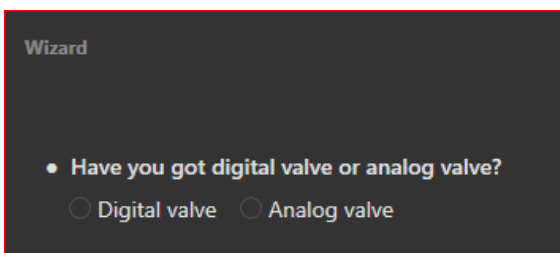


#### 2.2.4 Create a heating function

To create a heating function, click on the radiator symbol in the room.

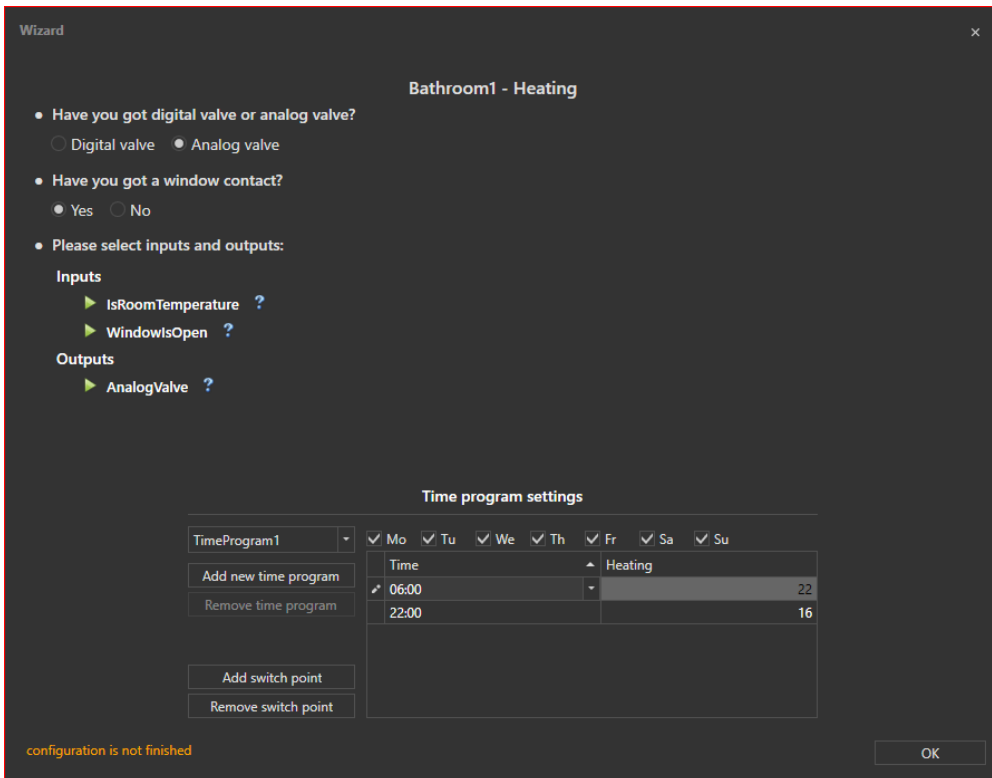


After clicking, the settings for the heating module are made. The first think to select is whether an analogue valve (0-100%) or a digital valve (open / closed) is present.

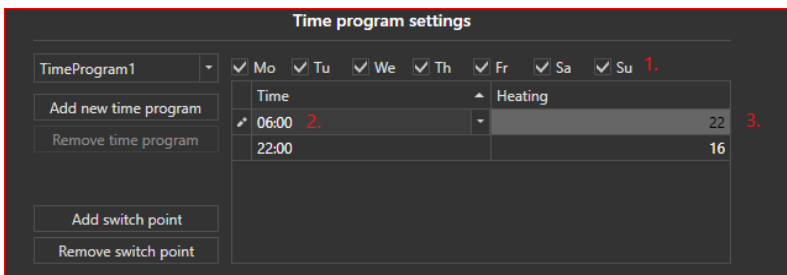


By selection Digital valve or Analog valve, different menus are displayed, which define the behaviour and settings.

The assignment of the Inputs and Outputs is the same as described in chapter **Fehler! Verweisquelle konnte nicht gefunden werden..**



A heating program can be set in the lower part of the window.



1. Active days for the time program
2. Time of the switch point
3. Desired temperature for the switch point

Up to 7 heating programs can be created (max. one per day).

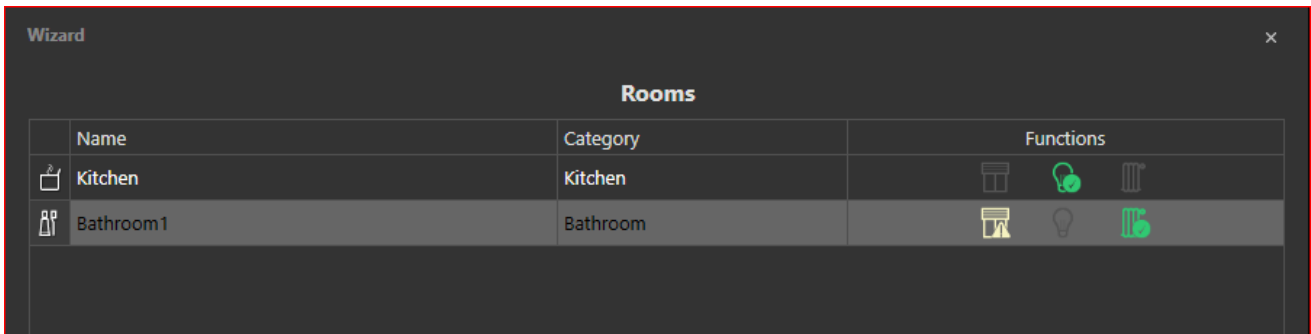
### 2.2.5 Status of created functions

The third column shows the status of the respective function in the respective room.

Green: Correct and completely configured

Yellow: Not fully configured

Grey: Not used



### 2.2.6 Finish assistant

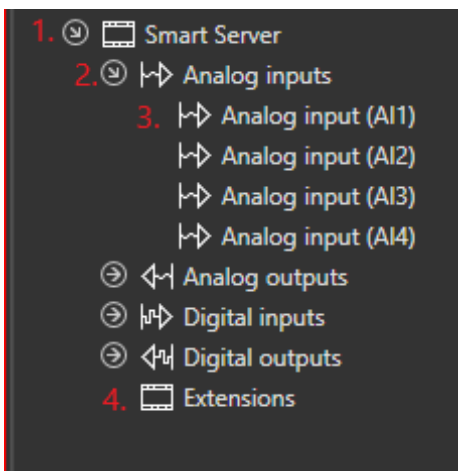
Clicking on the "Finish" button closes the wizard and all settings are applied in the project. Additional settings or functions can be added, but without a wizard.

## 3 Device Management

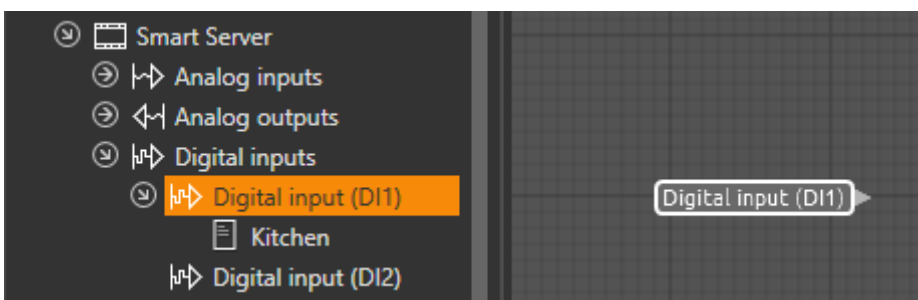
### 3.1 Devices in project tree

All the devices used in the project are added to the project tree. To install the devices properly, follow the steps.

1. A Smart Server or Radio Server is always visible at the top.
2. Group of an Input or Output category: All Inputs and Outputs are grouped together, such as "Analog Inputs".
3. Available Inputs and Outputs per group.
4. Extensions connected to the server.



If any Input or Output is added to a drawing page, it is displayed in the device tree. So it is clear on which drawing pages this is used.

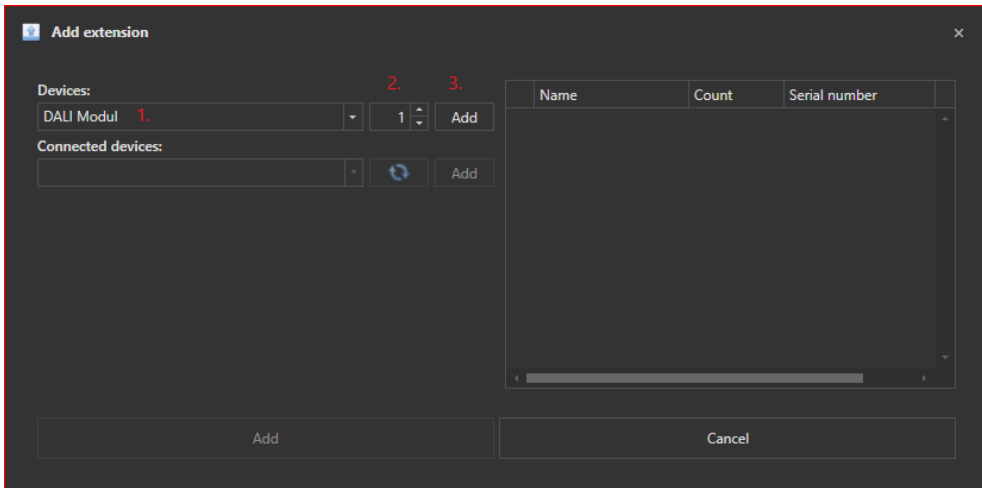


Double-click on the Input / Output in the drawing page to select it directly. If you click on the room in the device tree, the drawing page is opened directly.

## 3.2 Extensions

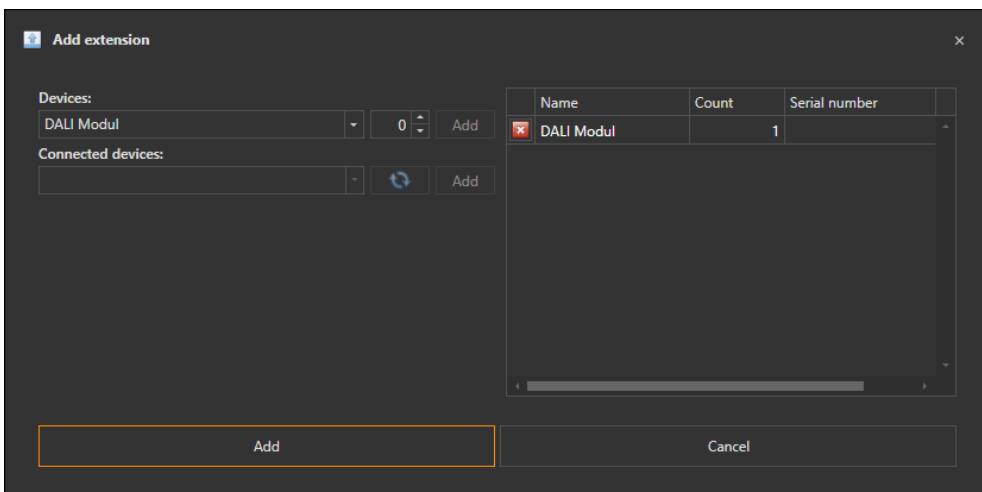
### 3.2.1 Add Extensions (Devices)

All extensions can be added without running system. To add a new device, simply click on the "Add Extension" menu. A new window will open.



1. Select desired extension (Device)
2. Select a number of extensions
3. Click Add

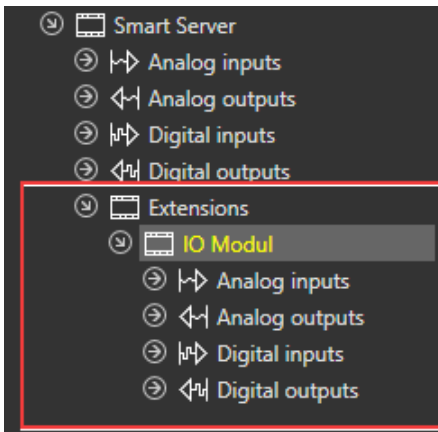
After clicking "Add", the devices are listed in the list on the right side. Now you can add more devices or click on the "Add" button below to complete the process.



To complete the process and insert all devices into the project, select the "Add" button below.

The added devices are now marked in yellow in the project tree.

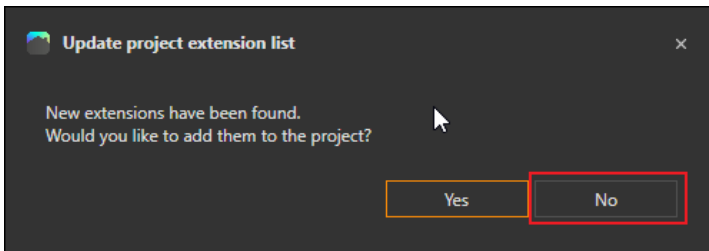




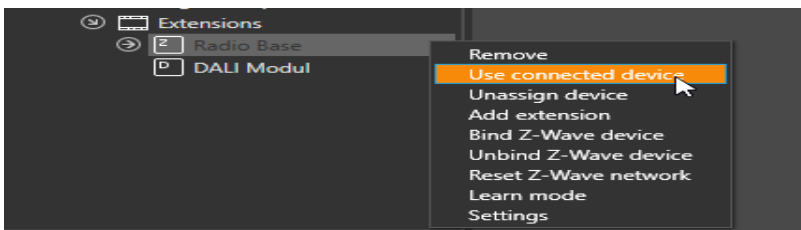
### 3.2.2 Allocate or replace device

A device marked in yellow means that it has not yet been allocated to a physical device. To change this, the server must be first connected to a PC. For a detailed description see chapter 4.0.

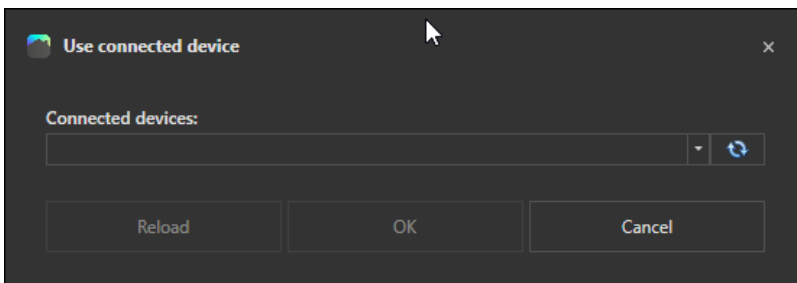
If this window appears when connecting to the server, select "No".



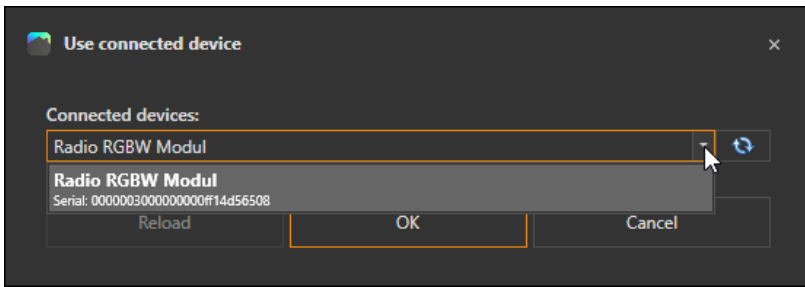
Click on the desired device with the right mouse button and select the desired item in the context menu.



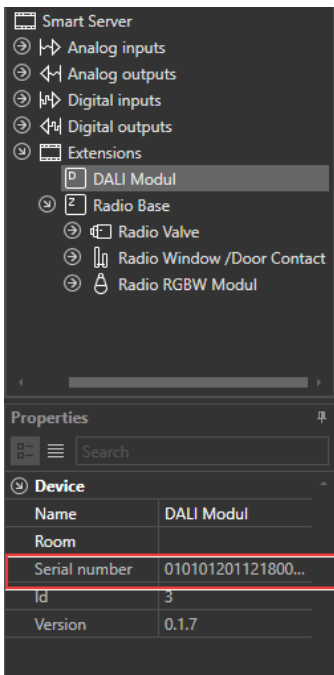
A new window opens with all compatible devices in the list. If no device appears, this may be because there are no new devices in the system or the devices are not compatible with the selected device.



Clicking on the selection menu, displays the list of devices with serial number.



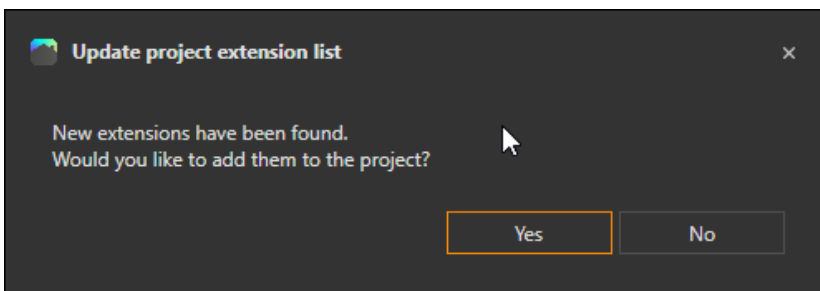
After a device has been selected from the list, click on the “OK” button, and the selected device is added to the project tree. The serial number is now displayed in the properties menu and the yellow marking is removed.



If you want to replace an existing device, this can be done in the same way.

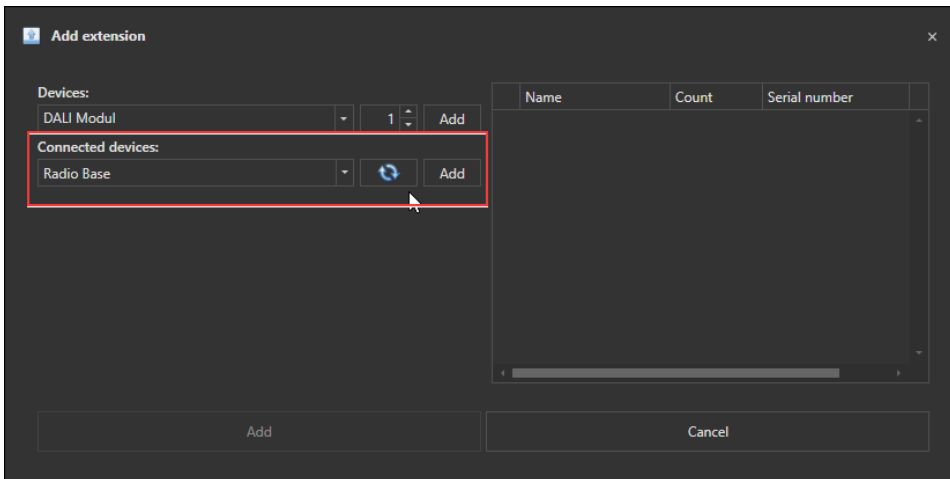
### 3.2.3 Add devices - Server connected

If new devices are connected to the server, the following window appears after connecting to the server.



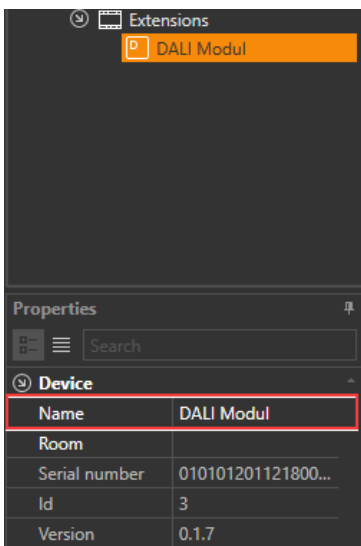
After clicking on "Yes", all extensions in the system are added to the project. This can also be done later via the menu "Add extension".

If “No” is selected, devices can be added later using the “Add extension” menu. All devices that are available in the system are listed. After one click on “Add” button, all they are added to the list on the right. Devices that should not be included can still be removed. After clicking the “Add” button below, all devices in the right list will be included to the project.



### 3.2.4 Rename extension

At first, select the device in the project tree. Then a new name be set in the properties window.

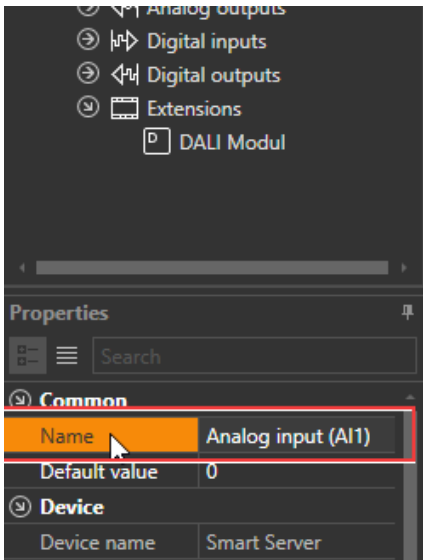


## 3.3 Input and Output settings

Depending on the type, Inputs and Outputs may have different settings.

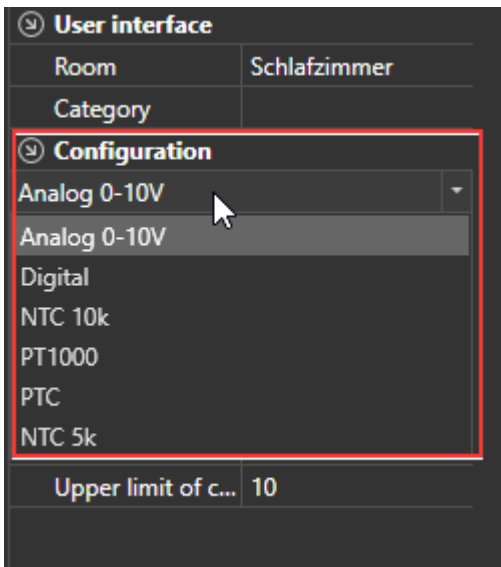
### 3.3.1 Rename Inputs and Outputs

Select an Input / Output in the project tree. After selecting it, this can be set by a new name in the properties window.



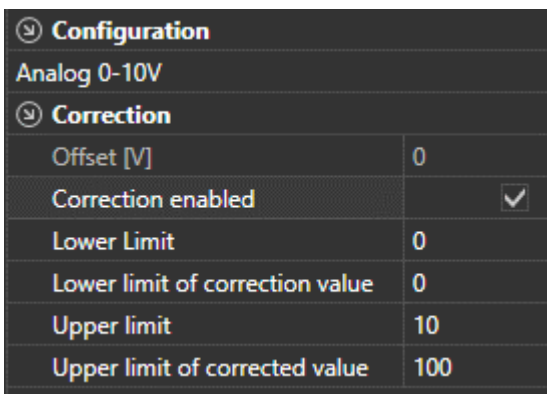
### 3.3.2 Analog Inputs

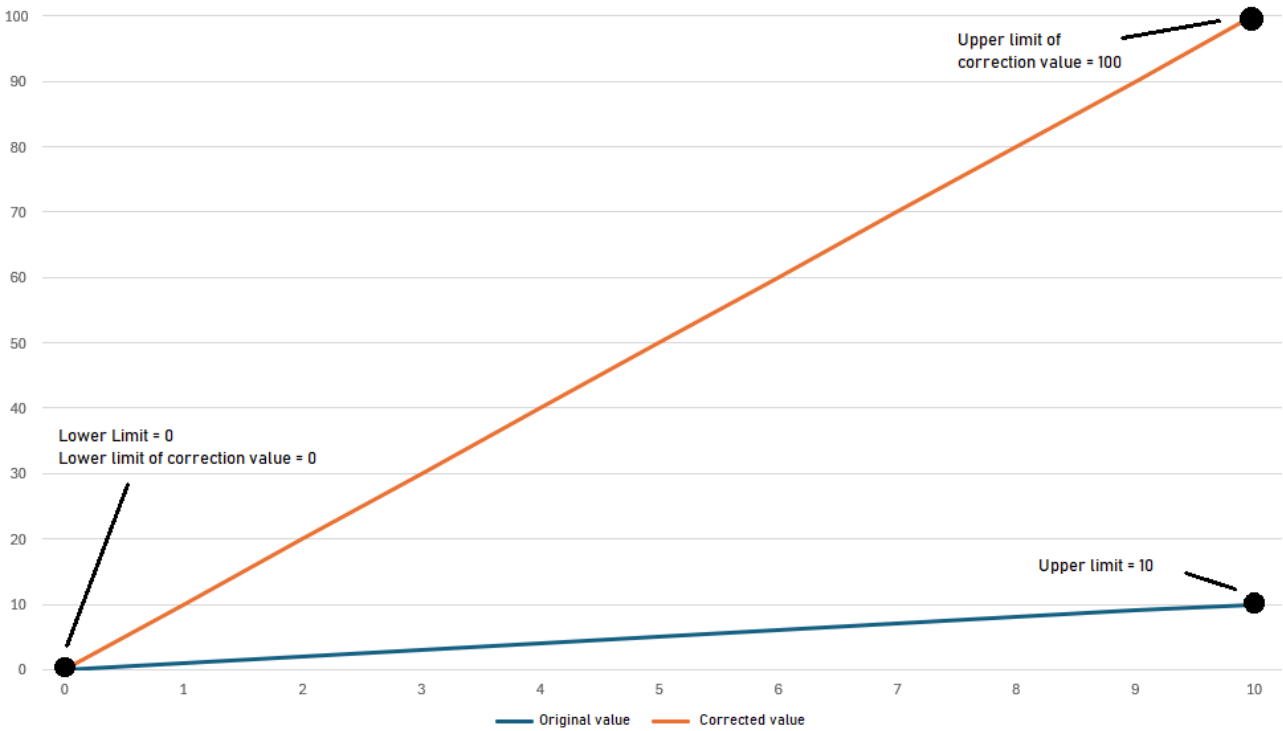
An analogue Input can also be configured as a sensor Input or digital Input, depending on the device.



Depending on this setting, there are different settings for corrections.

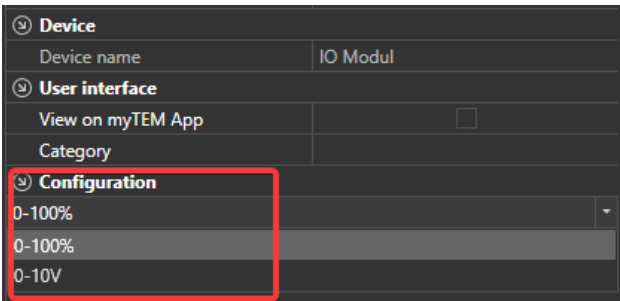
For the 0-10V mode a linear scaler and an offset can be set. The scaler is only active if the option "Correction active" is selected. The conversion is linear, whereby the characteristic curve is defined with the points "Lower limit", "Lower limit of correction value", "Upper limit" and "Upper limit of correction value".





### 3.3.3 Analog outputs

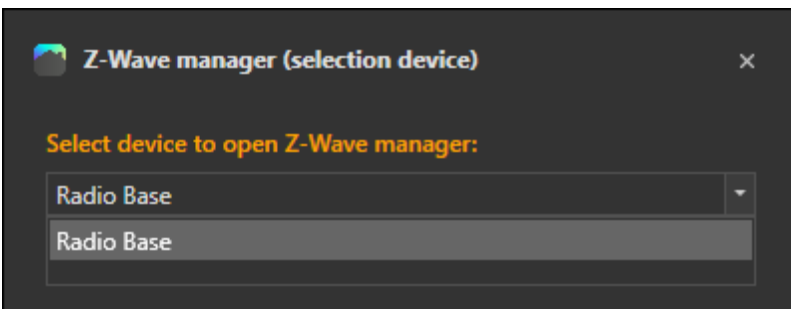
Analog outputs can be indicated in 0-100% or 0-10V. If 0-100% is selected, this is then converted to the physical value 0-10V.



### 3.4 Z-Wave Devices/Extension

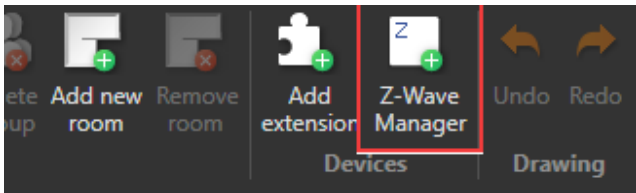
To use Z-Wave, a Radio Server or a Smart Server with Radio Base extension needed. To actively integrate the devices into the system, you must be connected to the server (see Chapter 4).

It is possible to have several radio base extensions in one system. In this case, a window opens for selection.

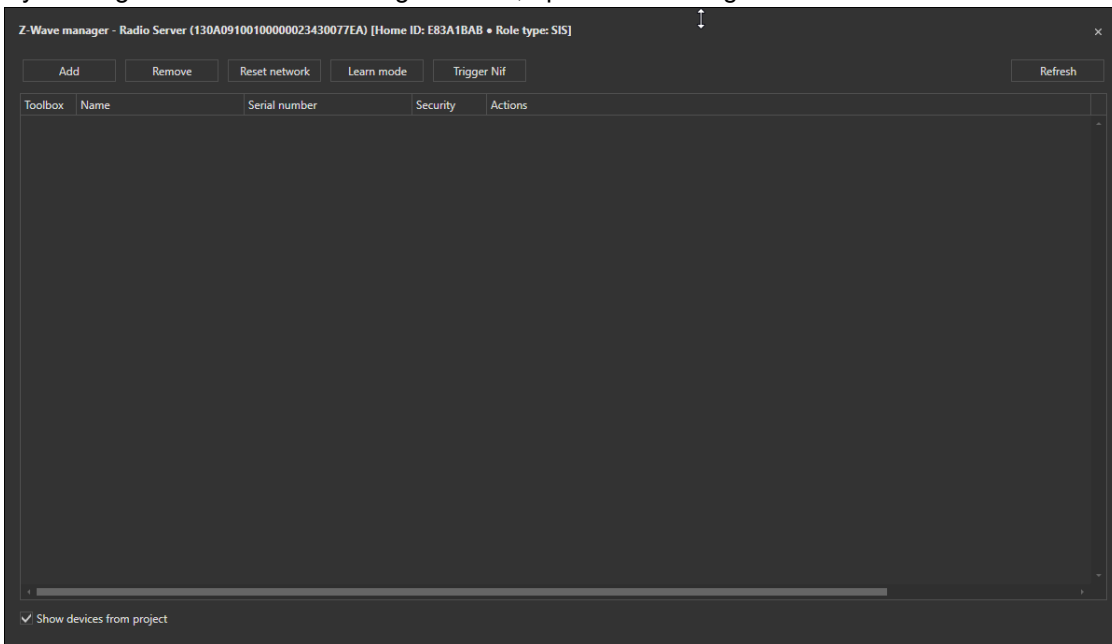


Z-Wave devices are linked to the selected device and stored. This data is also available in the project after deleting!

If Radio Server or Radio Base is selected, the “Z-Wave Management” menu becomes active.

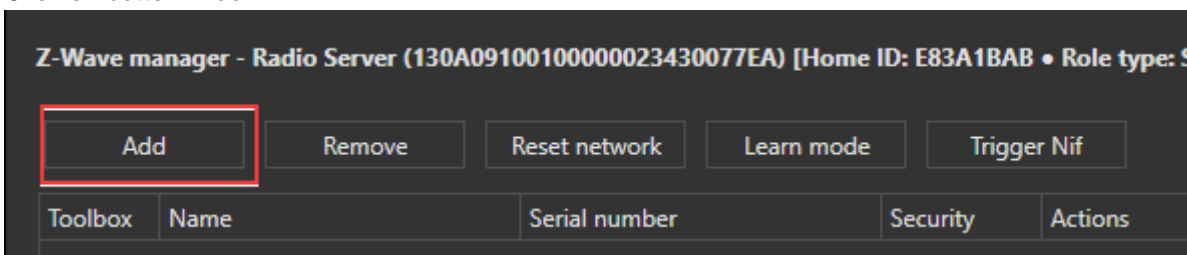


By clicking on the “Z-Wave Manager” menu, opens the management window for Z-Wave devices.

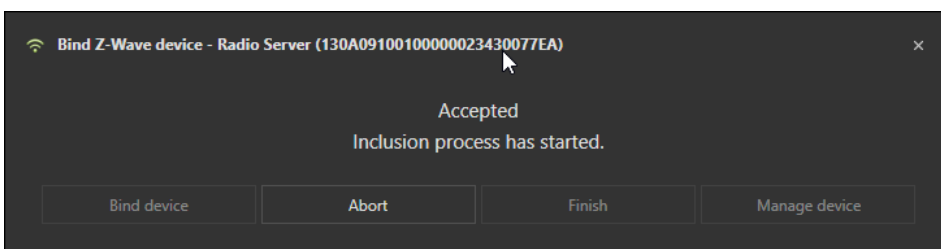


### 3.4.1 Add device

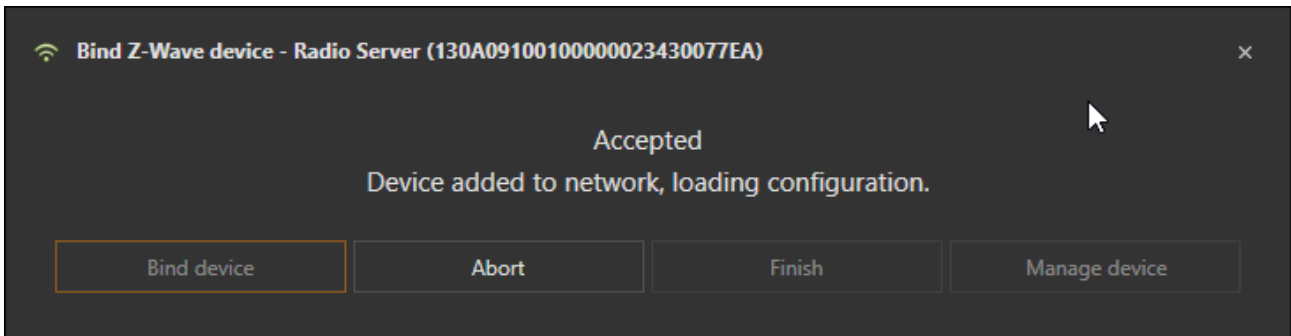
Click on button “Add”.



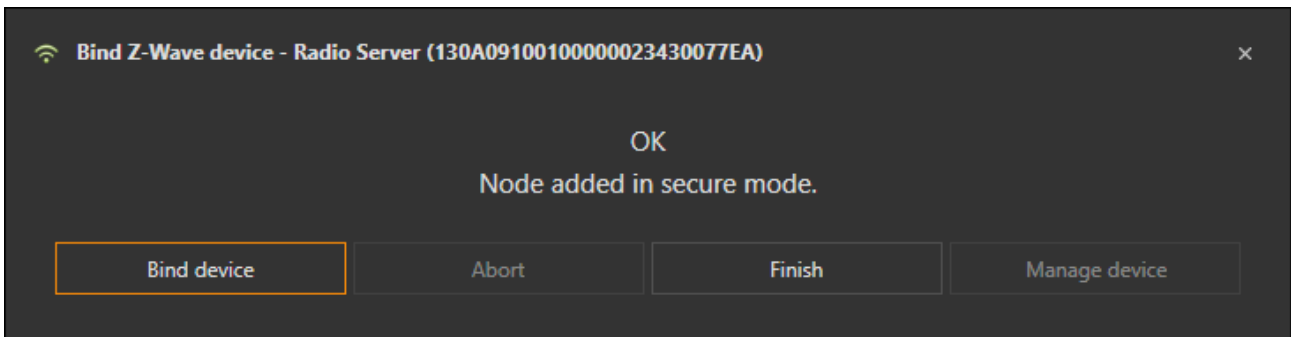
Now it switch to the connection mode. After, this can also be done with the device. (Described in the manual of the Z-Wave device)



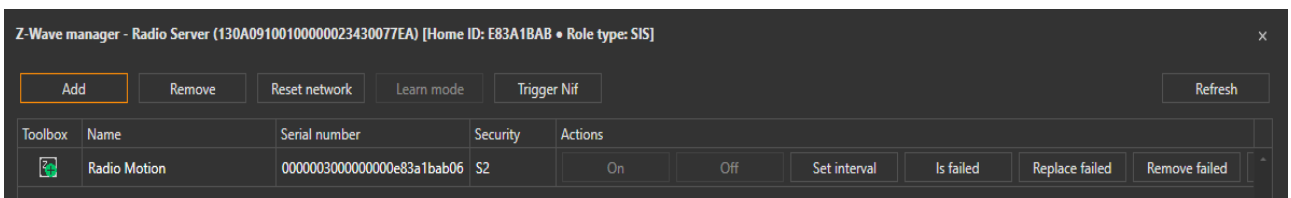
After a few seconds the device will be recognized and the configurations will be loaded. This can take a few minutes.



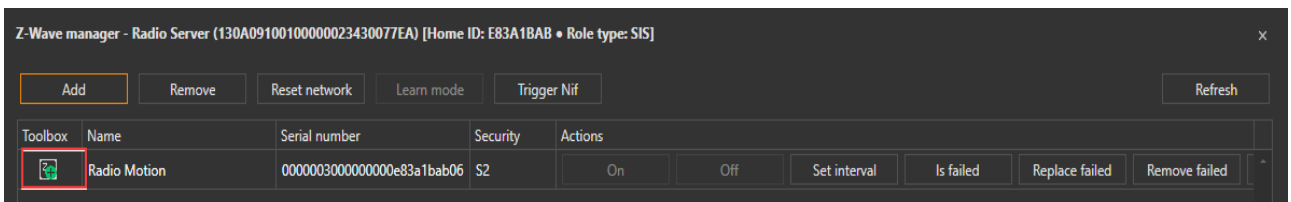
When this is complete, the connection process can be started again to connect additional devices or the window can be closed.



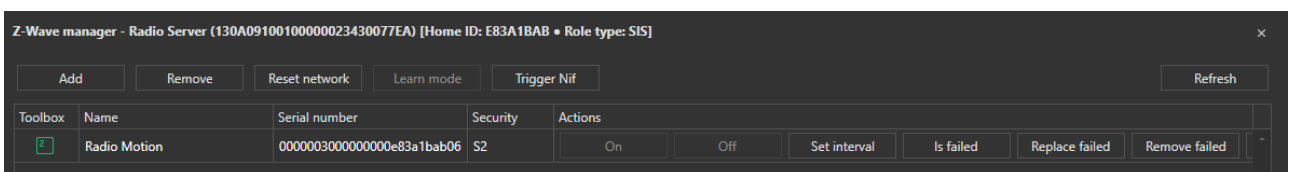
In the management window, displays the new device in the list.



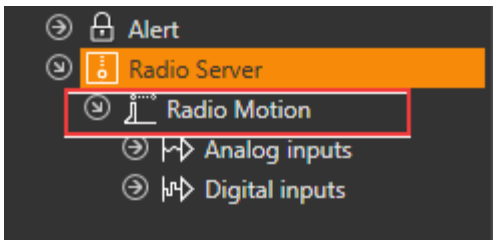
This is now connected to the Radio device but not yet available in the project. To add the device to the project, the Add button must be clicked. This icon always indicates that, the device is connected to the Radio device, but not added to the project.



After clicking, the icon turns green and the device is present in the project tree. Now the management window can be closed and the Inputs and Outputs in the drawing pages can be used.

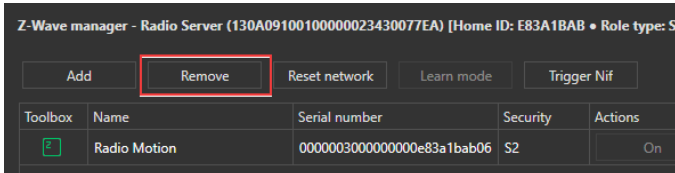


In the project tree, the devices are always placed below the Radio device in order to identify to which device the Z-Wave device was added.

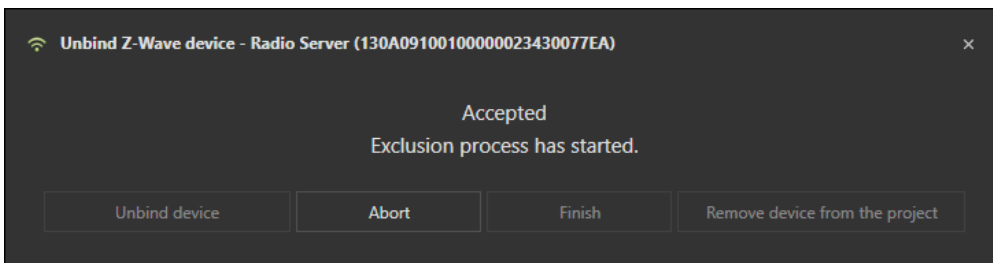


### 3.4.2 Remove device

Click on “Remove” in the management window:

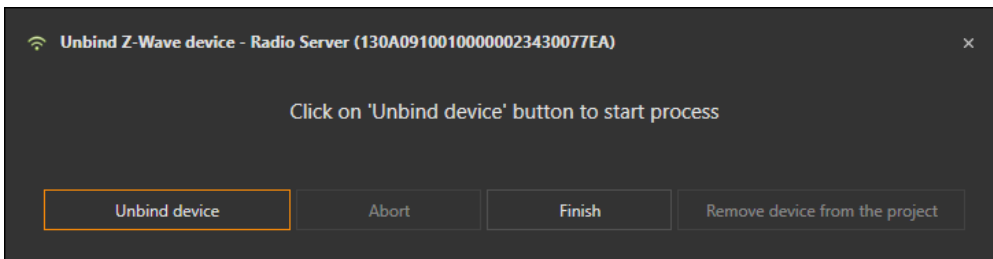


Remove mode has been started. This window appears:



Run the unbinding mode on the device to be removed (see manual of the Z-Wave device).

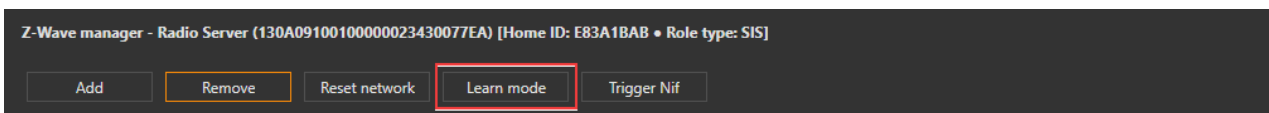
If the remove mode was successfully performed, “OK” displayed. Now the window can be closed or further devices can be removed.



Removing devices also works if they are not in the list of devices or if you are not sure if the device has already been removed.

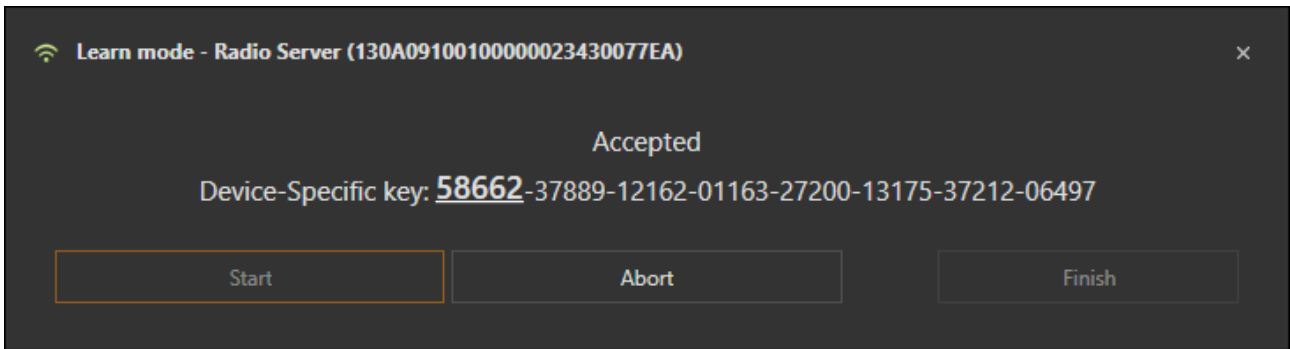
### 3.4.3 Set Learn Mode

Click on “Learn Mode” in the management window to set Radio Server or Smart Server to Learn Mode:



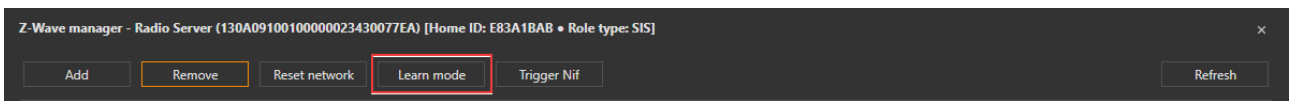
After the learning mode has started, the DSK (Device-Specific key) displays. The learn mode can only started if any Z-Wave slave device are not connected to the Radio Server or Smart Server.





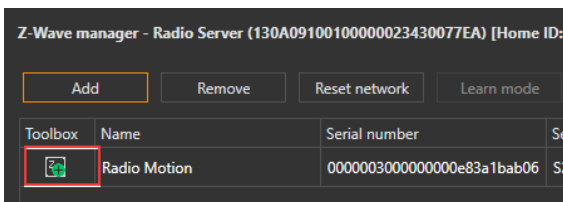
### 3.4.4 Include Radio Server or Smart Server to existing network

To add the Radio Server or Smart Server into an existing network, first set the controller with the existing network into inclusion mode and then click on “Learn Mode”. The learn mode can only started if any Z-Wave slave device are not connected to the Radio Server or Smart Server.

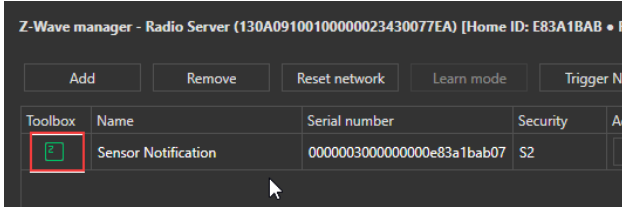


### 3.4.5 Status-overview

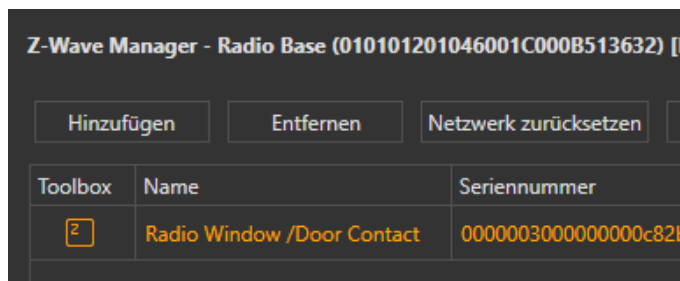
Device available, but not added to the project:



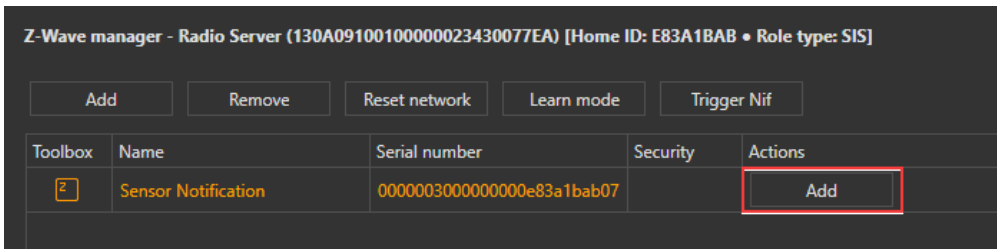
Device is available in the project as well on the server:



Device is only available in the project, but not on the server. To use this again, it must first be replaced with a new device:

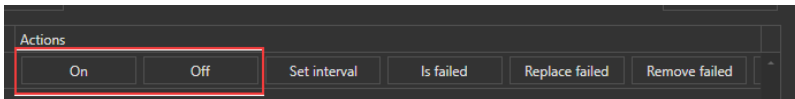


This can be done with the "Add" button, which is displayed in the list. The process is the same as in chapter 3.4.1.



### 3.4.6 Control devices via On / Off

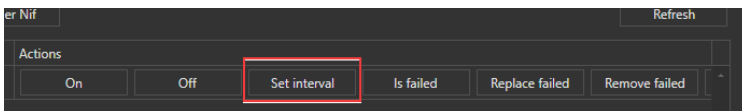
With On and Off a device can be switched on and off to check the function.



The available functions differ depending on the device and are described in the operating manual of the respective device.

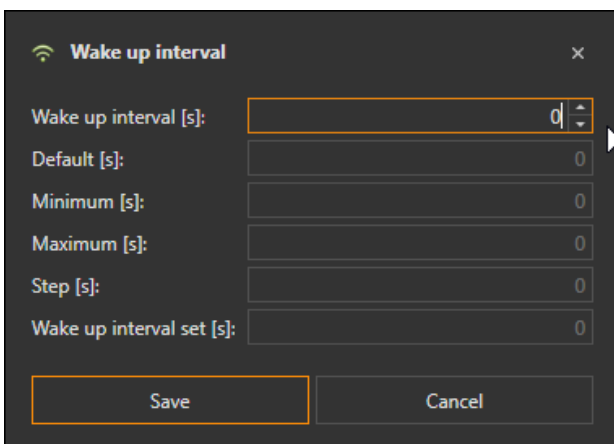
### 3.4.7 Set interval of the devices

For battery- powered devices, the set interval can be set by clicking on "Set Interval".



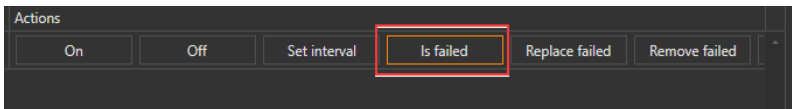
The available functions differ depending on the device and are described in the operating manual of the respective device.

With "Set interval" a new set interval can be set. The new Set interval is only sent when the device wakes up. Depending on the previous setting, this can take a several hours. Most devices can be woken up by pressing buttons on the device. With "Wake up interval ready to send" you can see which wakeup interval is sent when the device wakes up. With a click on "Check" you can check the current wakeup interval set on the device, after pressing Check a message appears with the message to wake up the device.

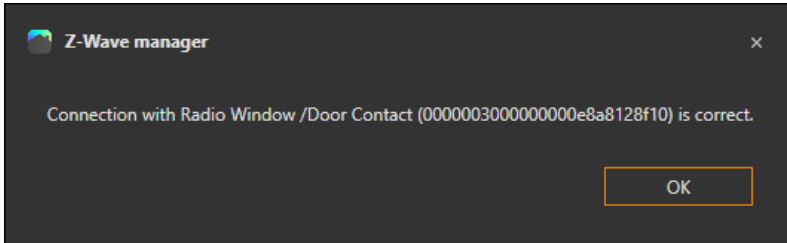


### 3.4.8 Check if a device is reachable

The reachability of devices can be checked by clicking on "Is failed?".

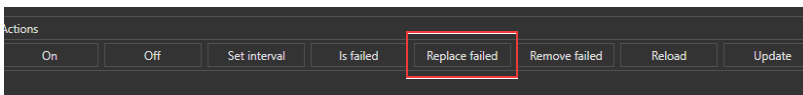


A message will be displayed indicating whether the device can be reached or not.



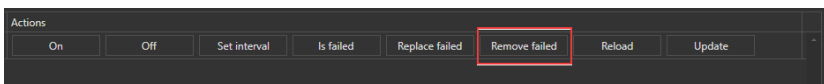
### 3.4.9 Replace device

With "Replace", device that are no longer reachable can be replaced. Reachable devices must be replaced by the general function "Remove" an "Add" at the top of Z-Wave management. See chapters 3.4.1 and 3.4.2.



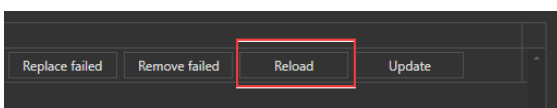
### 3.4.10 Remove device

With "Remove", devices that are no longer reachable can be removed. Reachable devices must be replaced by the general function "Remove" at the top of the Z-Wave administration. See chapter 3.4.2.



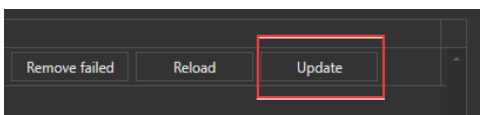
### 3.4.11 Reload device

By clicking on "Reload" the device configuration can be reloaded if something is not working properly.

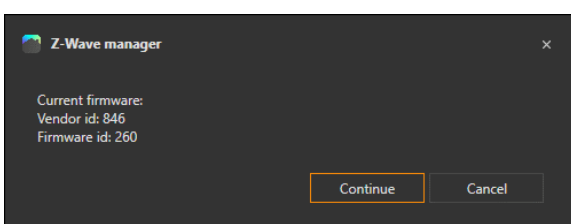


### 3.4.12 Update device

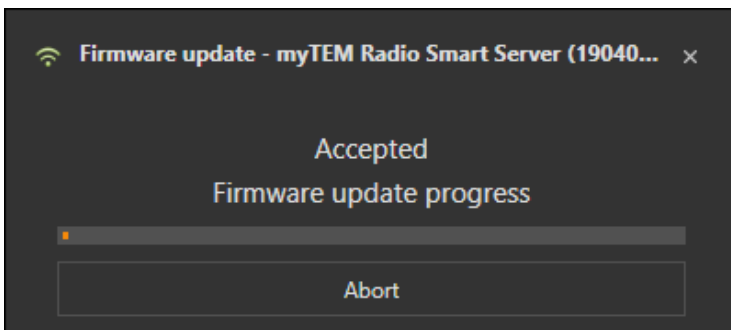
By clicking on "Update" you can update a Z-Wave device over the wireless to a new version.



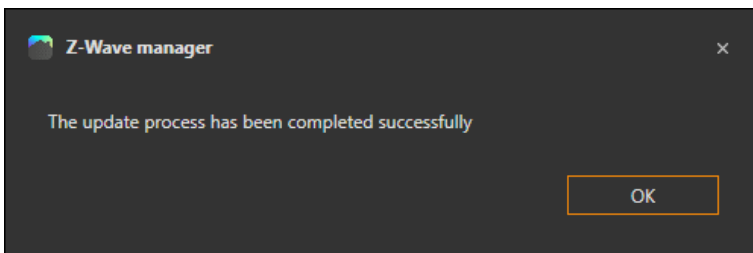
First, the manufacturer ID, the firmware ID and the firmware version are displayed. After clicking on "Continue" you have to select the file for the corresponding device.



Afterwards the update will be started. The update process can take a few minutes.

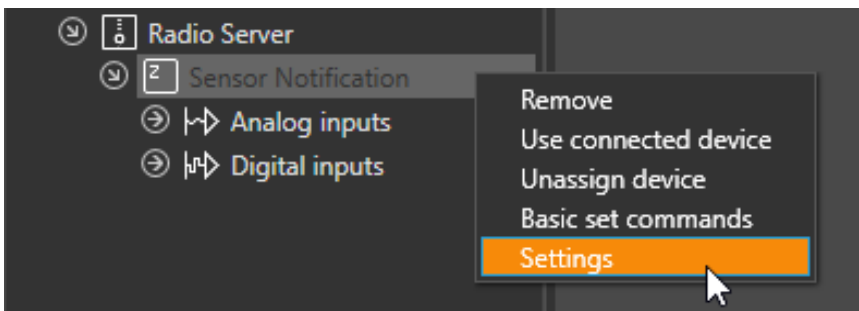


If the update was successful, a message will be displayed.

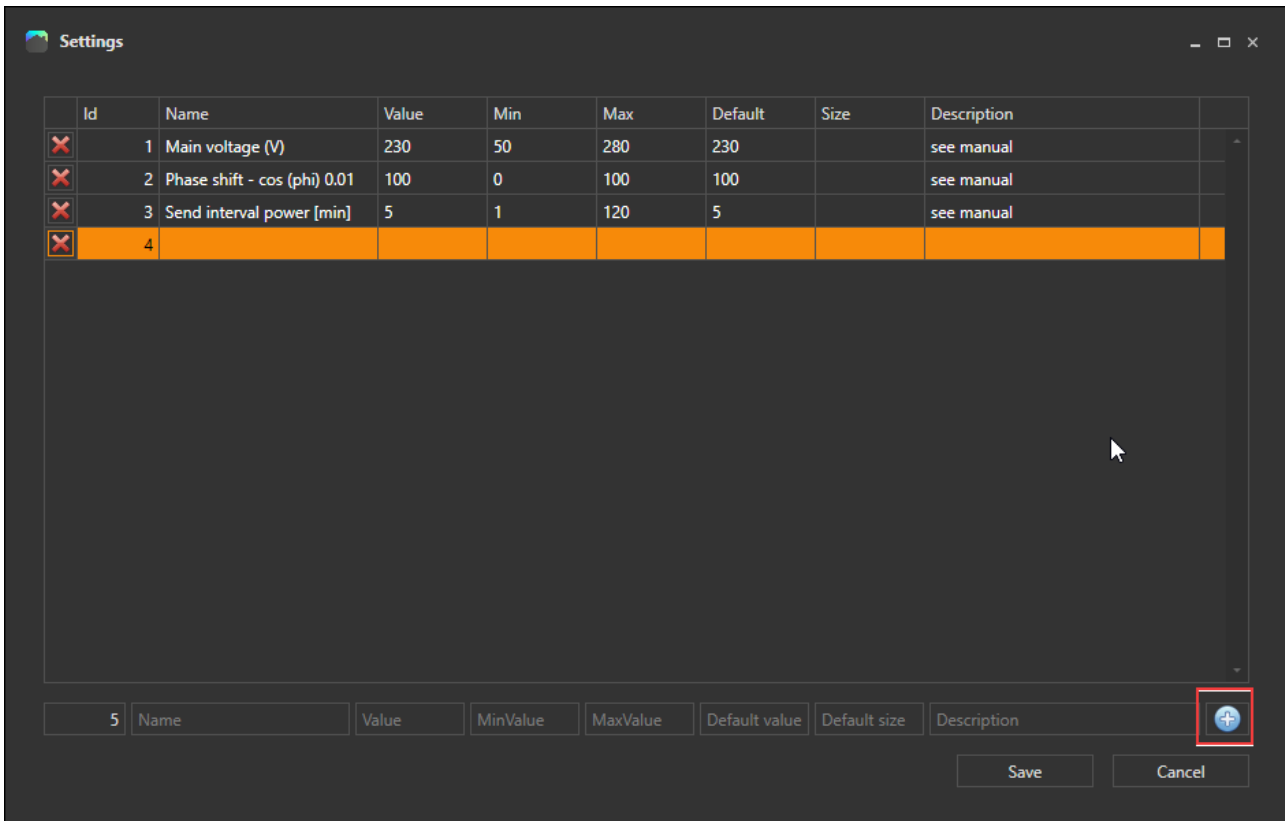


### 3.4.13 Device settings

By clicking the right mouse button in a Z-Wave device and selecting "Settings" the parameter can be adjusted.



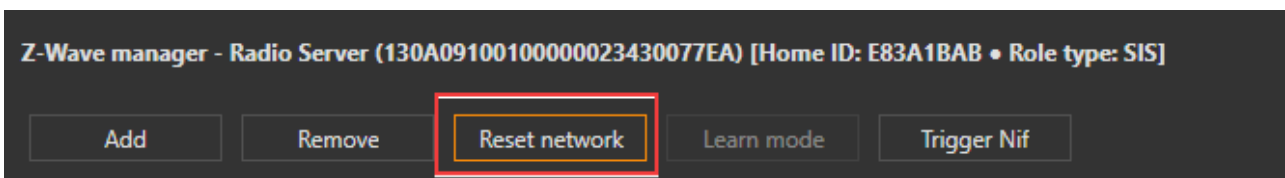
If the device supports the displaying the parameters, they are displayed, otherwise they must be added by pressing the plus sign.



All “Z-Wave Always On Slave” (AO) are sent the configuration when you click “Save”.

#### 3.4.14 Reset Z-Wave to Factory Settings

To Reset Z-Wave part to the factory settings click “Reset network”:



This will reset all network settings to factory settings and send a “Device Reset Locally Notification”.

If this controller on your network is a “Primary Controller”, reset causes devices on your network to be referenced. If this controller is used as a “Secondary Controller” in your network, use this procedure to reset this controller only if the “Primary Controller” is not available in your network.

#### 3.4.15 Include devices from multiple manufacturers in one network

Smart Server or Radio Smart Server from myTEM can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

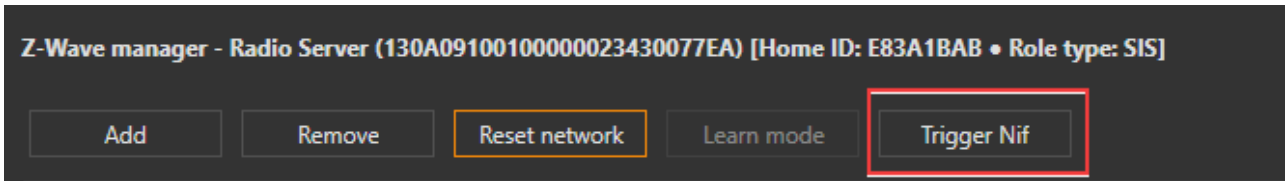
#### 3.4.16 Initiate a Replication

Copy (replication) is the process of updating network information from one controller to another controller. There are: lists of nodes or routing information.

1. Set the Radio Server into “Add” mode, as described in that chapter.
2. Set the “Secondary Controller” into Learn Modes. The description can be found in the manual of the manufacturer of this controller.

### 3.4.17 Send a “Node Information Frame”

To send a “Node Information Frame” click on “Trigger Nif”:



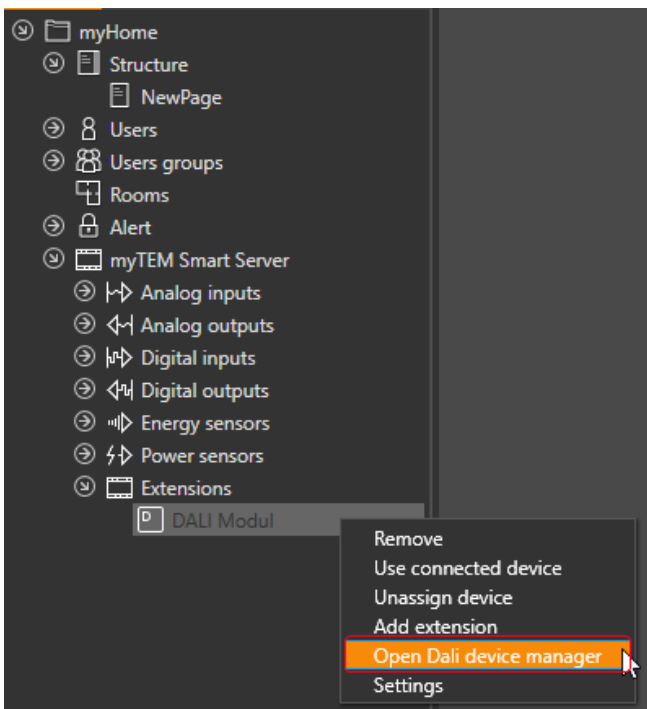
### 3.4.18 Behavior of Radio Server Receiving a Basic Command

The Radio Server ignores received “Basic Commands”.

## 3.5 DALI- Devices

To use DALI you need a DALI modul. To actively integrate the devices in the system, you have to be connected to the server (see Chapter 4).

With the right mouse button in the tab Projects click on the corresponding DALI extension to open the device manager.

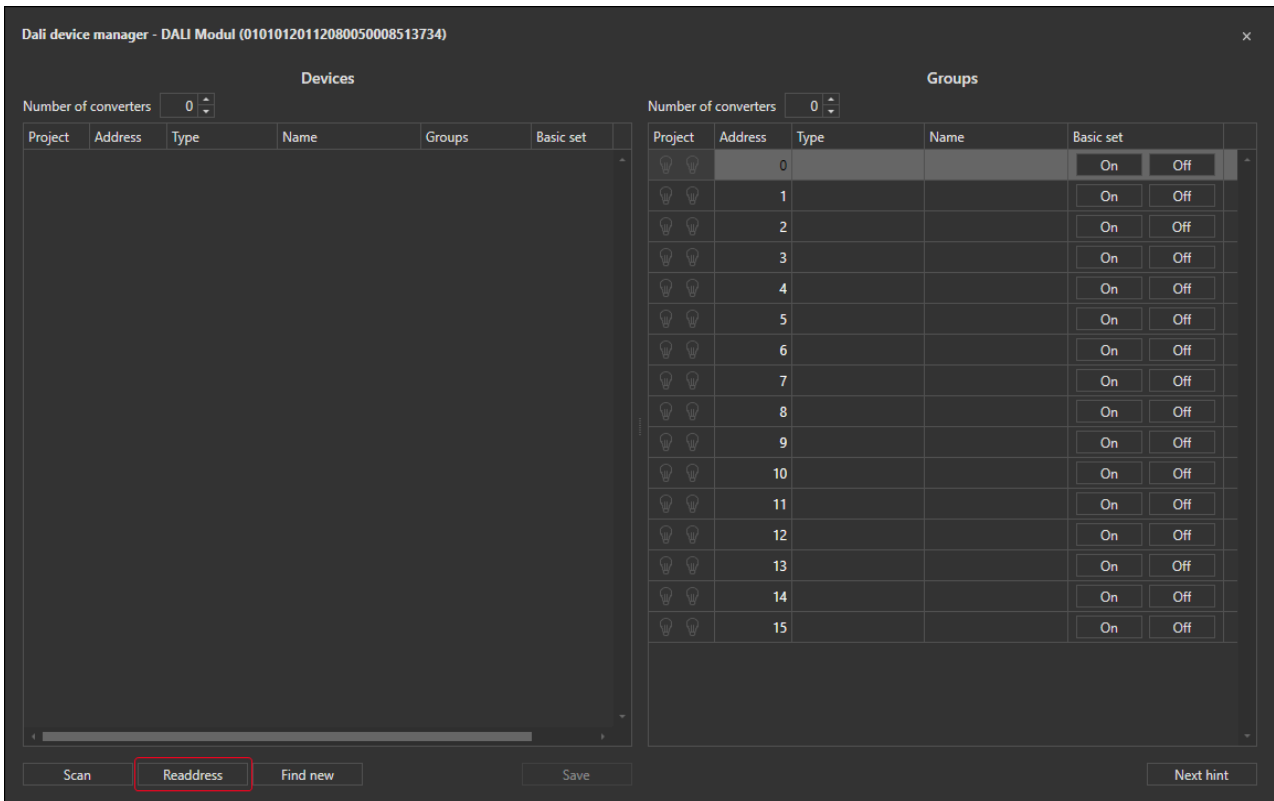


A new window opens and an automatic scan for devices is executed.

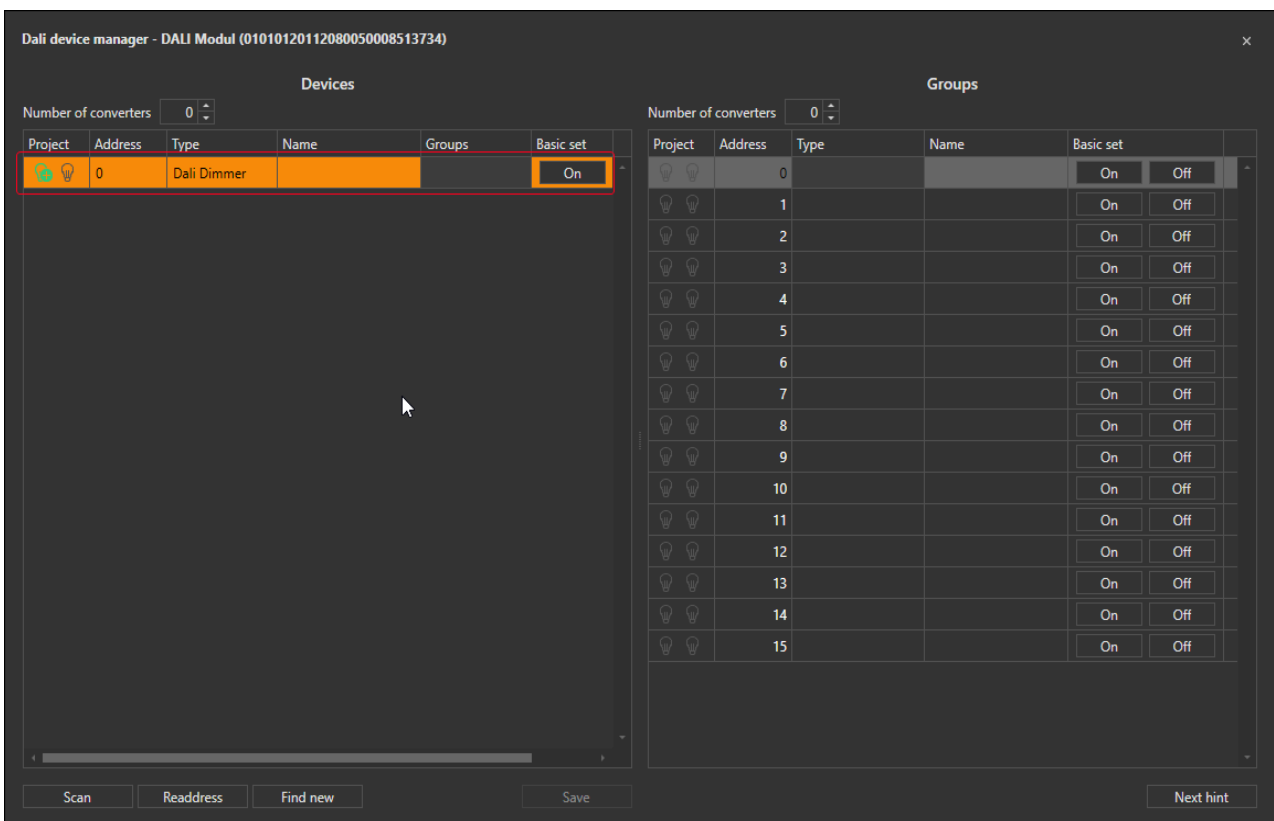
For the next steps all DALI devices must be running and functionally integrated in the system, i.e. connected to the DALI Bus.

### 3.5.1 Initialize DALI

To reinitialize all devices and assign a new address, click on the “New Address” button. After that, each device is assigned a new address or the existing address is overwritten.




The addressing process may take a few minutes for some devices. When the process is finished, all DALI devices are listed in the left list.



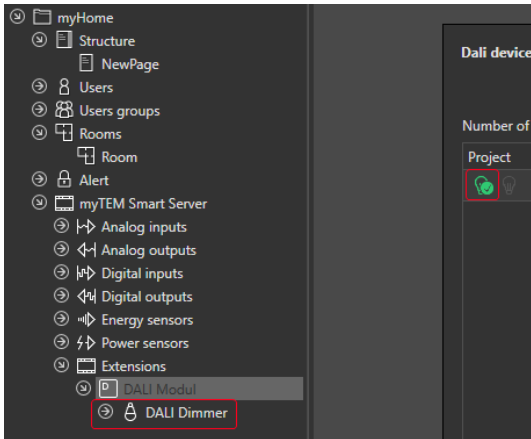
These devices are not included on the project yet. The addresses are saved on the DALI Devices itself.

### 3.5.2 Add device to project

To add a DALI device to the project, click on the green symbol.


Project	Address	Type
 0	0	Dali Dimmer

The green „Plus“ symbol changes to a “Hook” after click and the devices is listed under the DALI extension.




### 3.5.3 Change the device name

The device name can be changed later on the project three or directly on the list.

Project	Address	Type	Name	Groups	Basic set
 0	0	Dali Dimmer	Dining Room		On

### 3.5.4 Test Device

A DALI device can always be switched on and off directly by using the "On" and "Off" buttons, provided it is available in the list. This serves for easy identification of the individual devices or the colour channel.

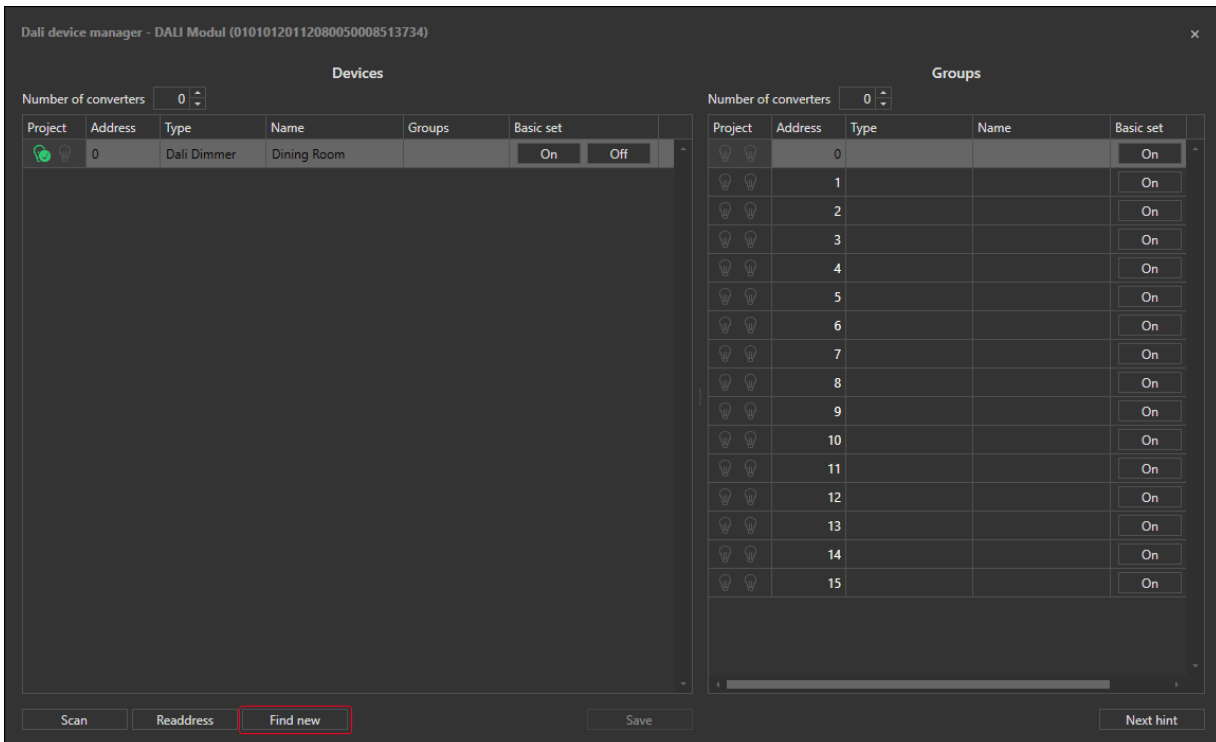
Project	Address	Type	Name	Groups	Basic set
 0	0	Dali Dimmer	Dining Room		On Off

### 3.5.5 Extension of the existing DALI system

To extend an existing DALI System, if already addressed devices exist, the new devices must be integrated into the system. These devices must not have any DALI address, otherwise address conflicts will occur and not all devices can be detected correctly.

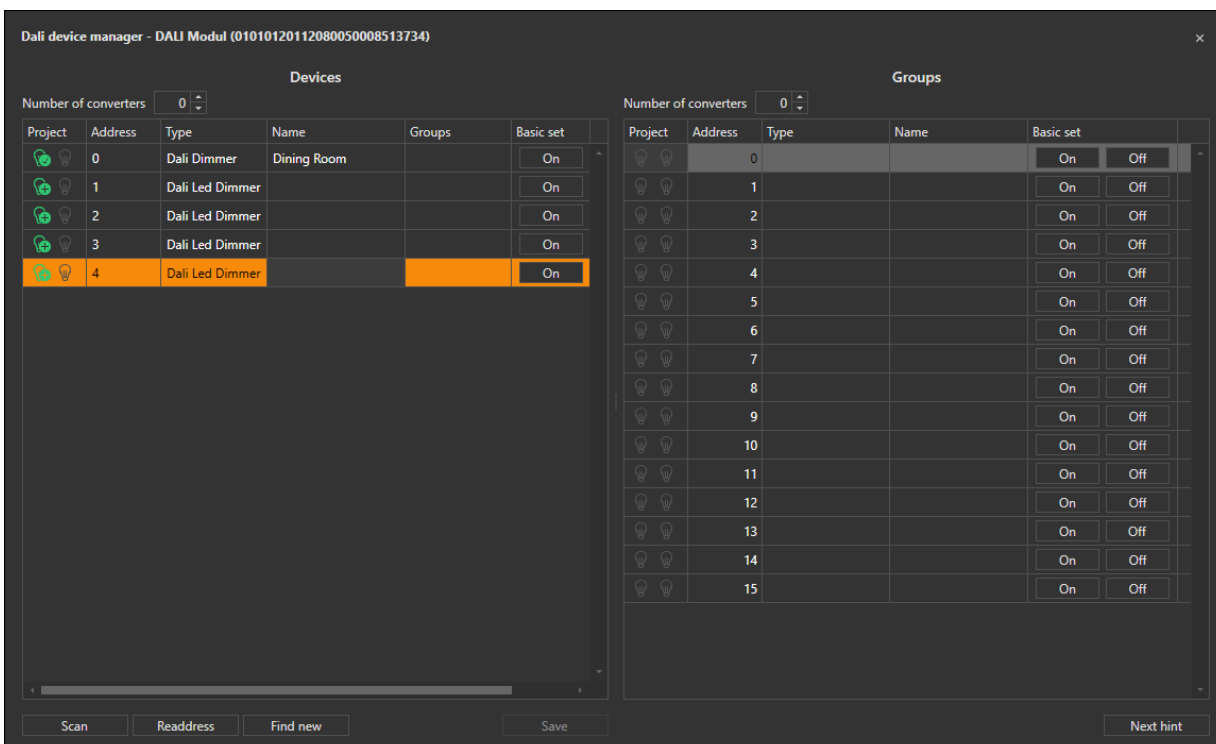
To start the process click on the “Address new devices” button.





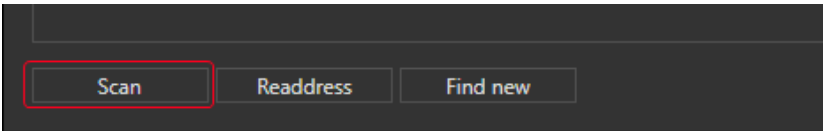
The system searches for new devices without an address, a new address is then assigned. The new devices are displayed in the left hand list.

The new devices can now be added to the project (see Chapter 3.5.2).

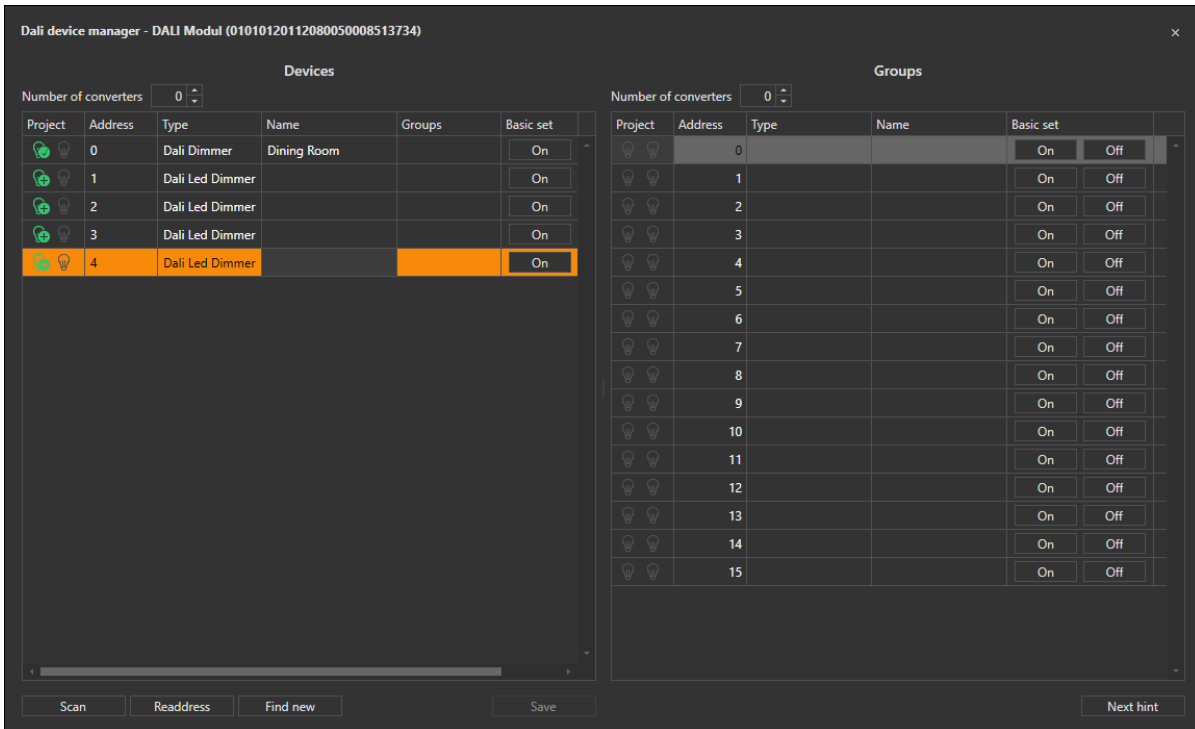


If a new project is created and the DALI devices are already addressed, the system can be read in.

The process is started by clicking the “Scan” button. When opening the DALI Device Manager a scan is automatically executed.



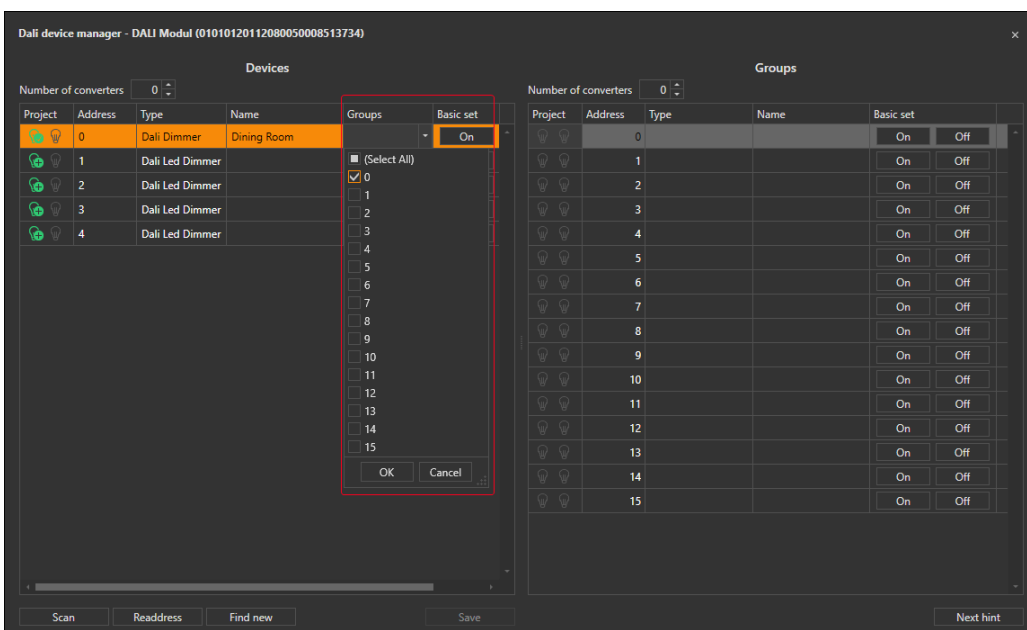
All connected and already addressed devices are listed on the left side and can be added to the project (see chapter 3.5.2).



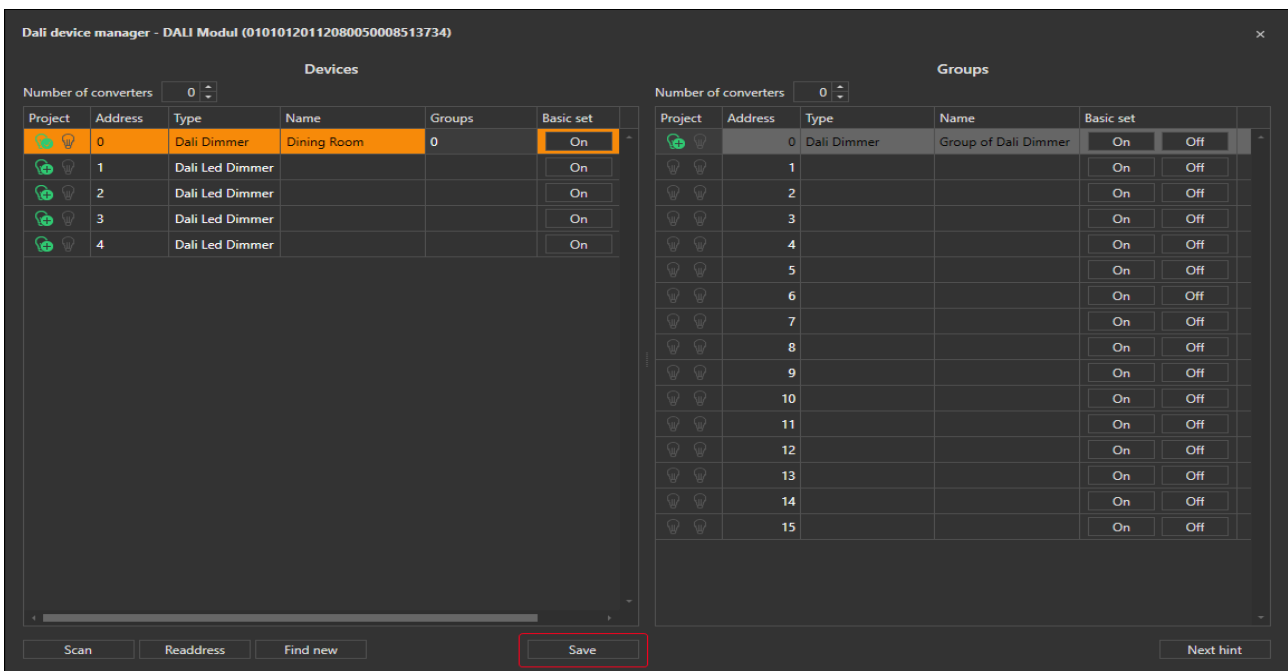
### 3.5.6 Create Groups

DALI devices can be connected to one or more group addresses (up to 16 groups). The group settings are displayed on the right side.

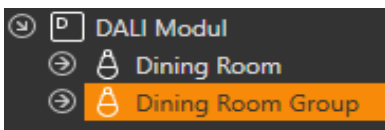
To add a device to a group, select the corresponding group in the left column “Group”.



After creating the group, click on the button "Save groups". This writes the settings to the devices.



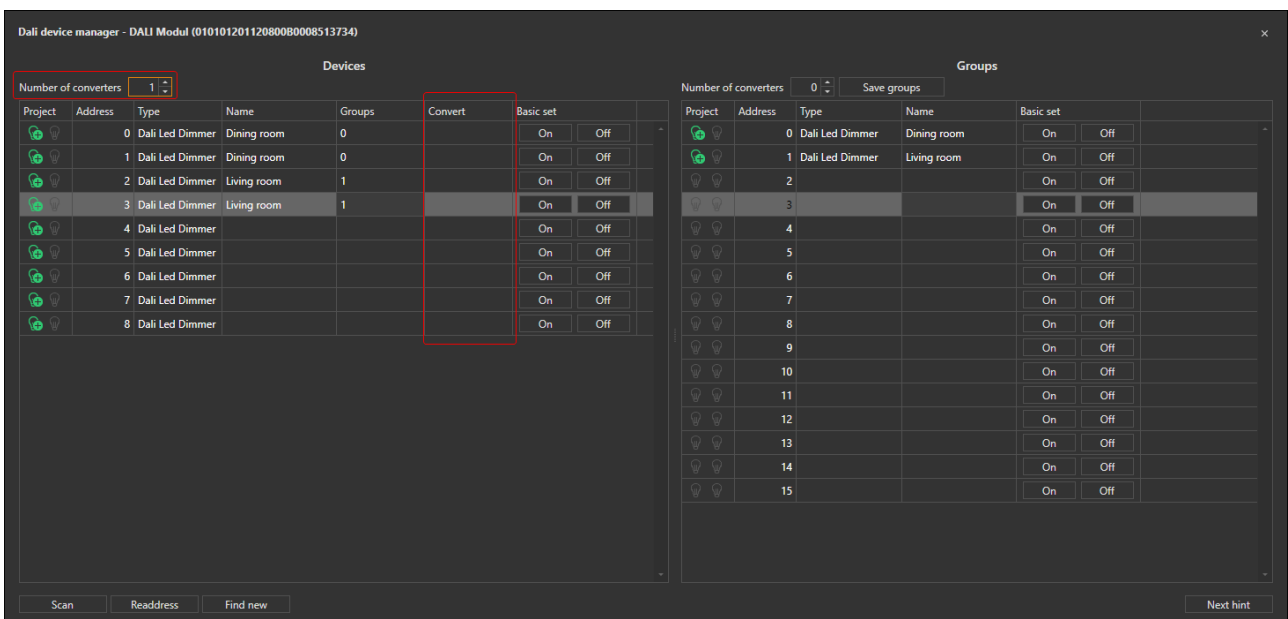
The groups are listed on the right side. The groups can be managed and tested in the same way as the devices themselves (see chapter 3.5.2 - 3.5.4). In the project tree, a group is represented like a device, with one output. This enables a very simple use of group addresses.



### 3.5.7 Create RGB(W) Devices

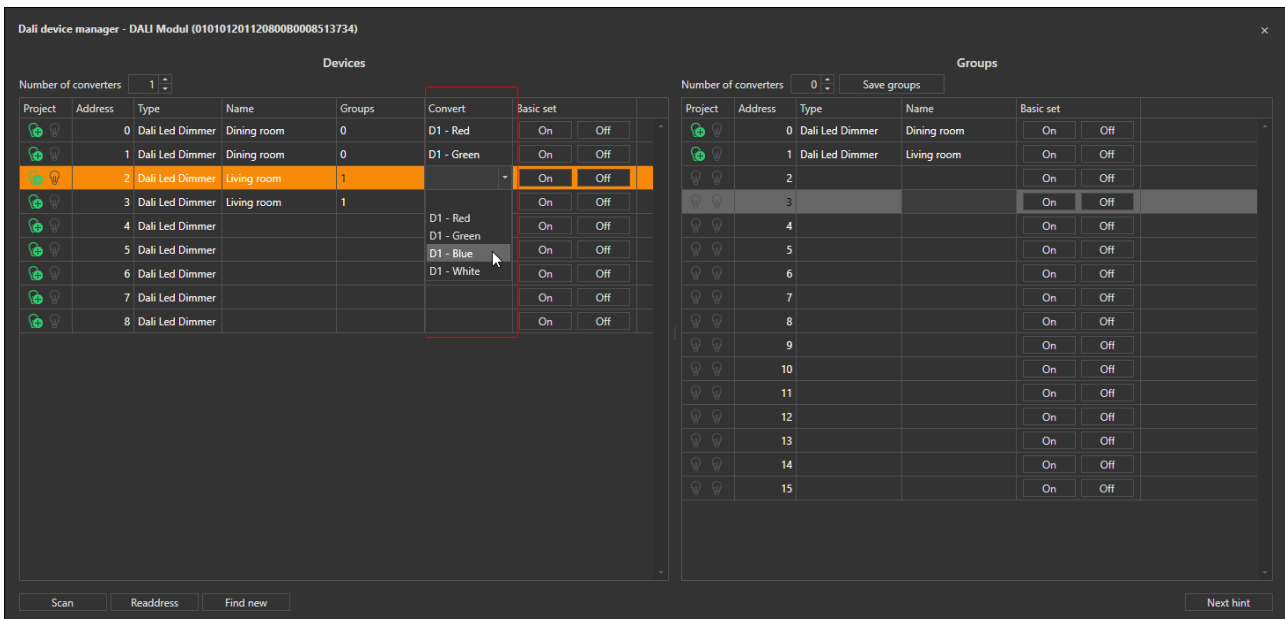
If you want to operate one RGB(W) LED strip (as colour control), several DALI addresses (one address per colour) can be combined to one device.

If the "Number of converter devices" is increased, a new column "Convert" is displayed.

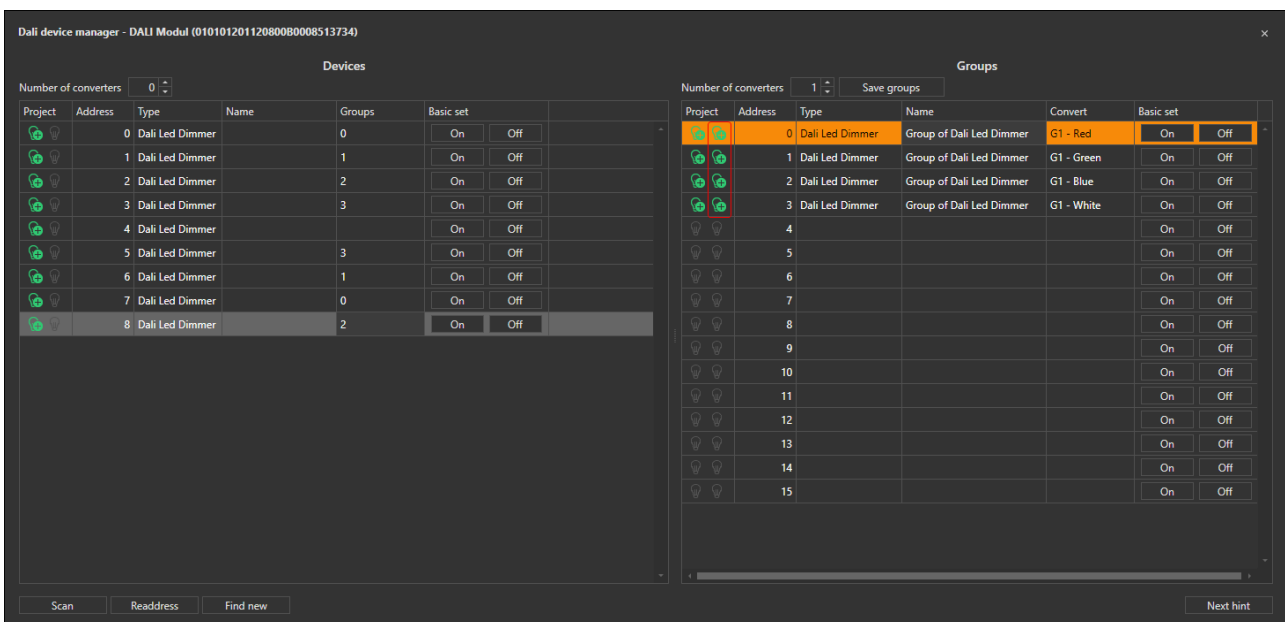


Now the respective color can be selected in the “Converter” column.

Tip: The colours can be identified using the On/Off button.



If all is completely configured, a new “Add” symbol is displayed.



The individual colours can be combined into one color device and added to the project by clicking the “+” in the red marked field.

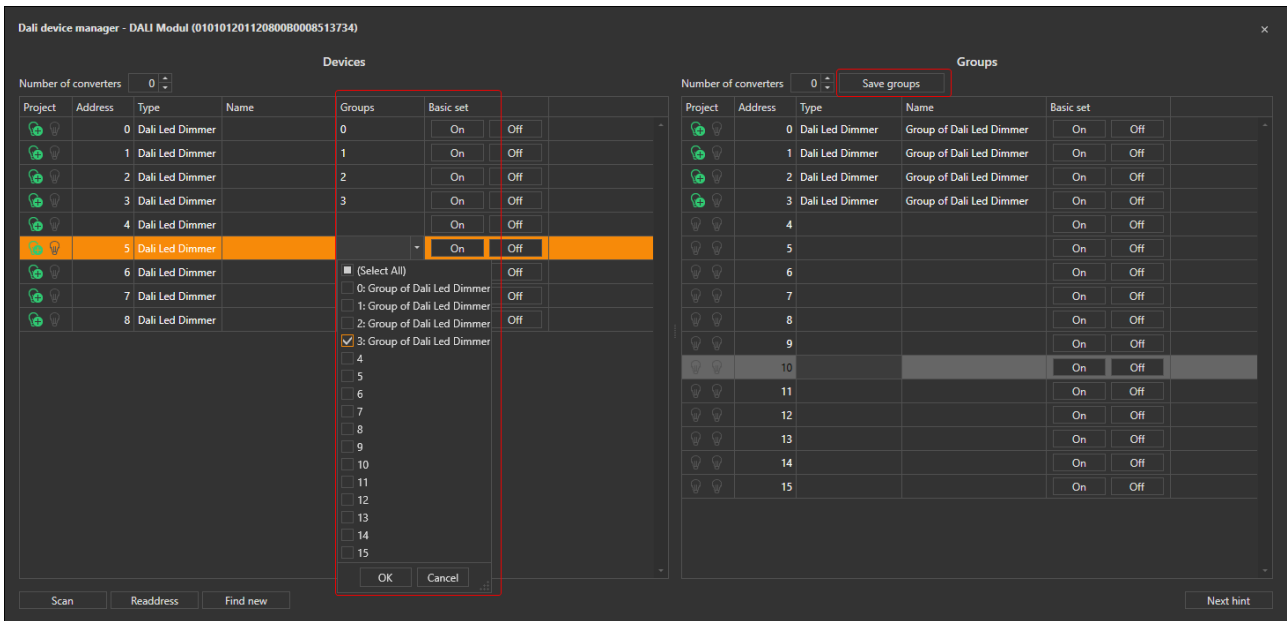
It can be added to the project as a device and is now displayed as “On” color device.

### 3.5.8 Create RGB(W) Group

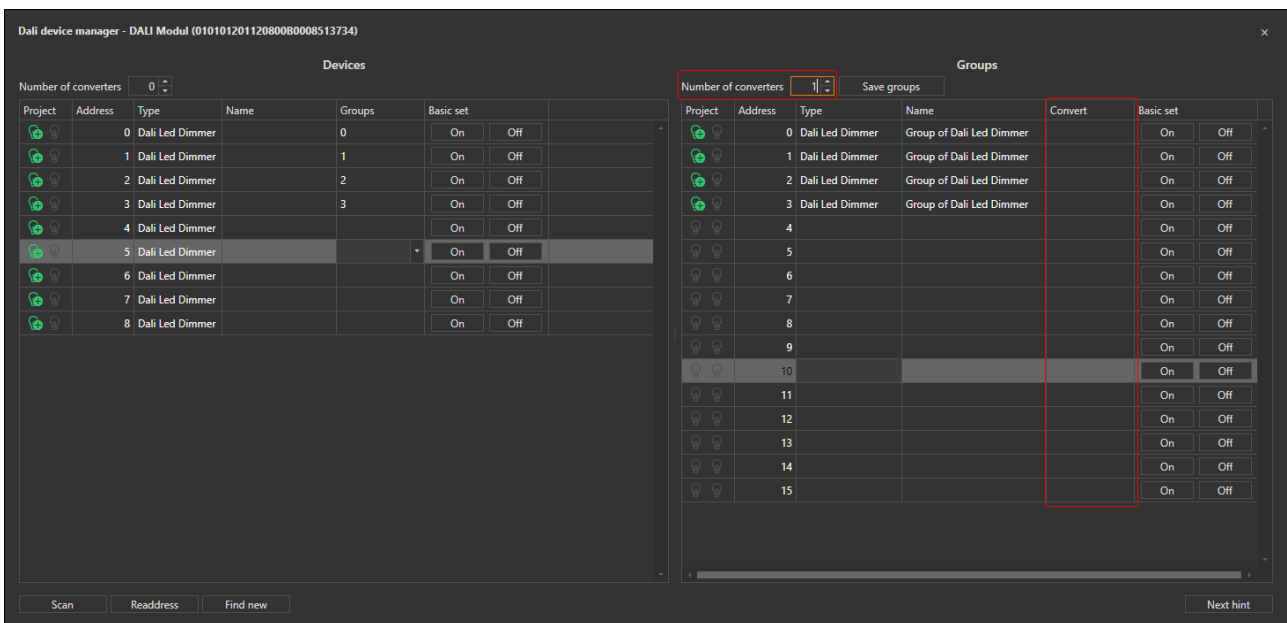
If you want to control several RGB(W) LED strips as a group, you can combine several DALI (RGB(W)) device into one group.

You have to select each color of all devices you want to have in the group and put them in a group (e.g. red to group 1, green to group 2 etc.). When all groups are configured, they have to be you saved in the devices by clicking the button “Save groups”

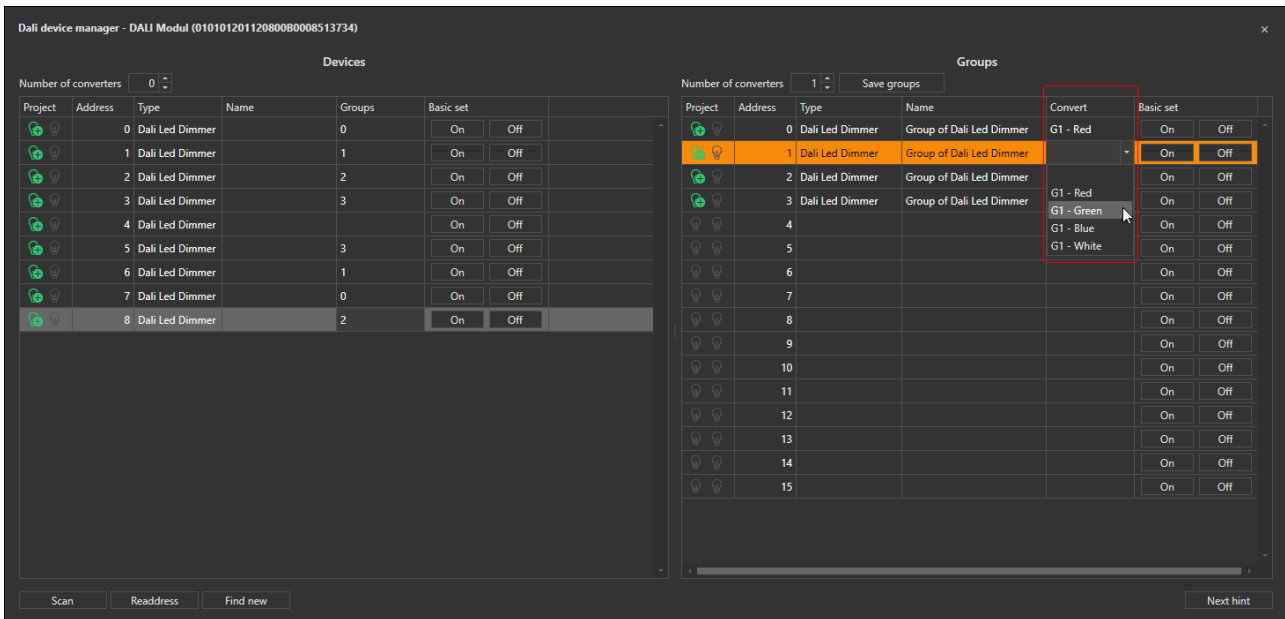
Tip: By using On/Off button on the devices and group, the color can be identify.



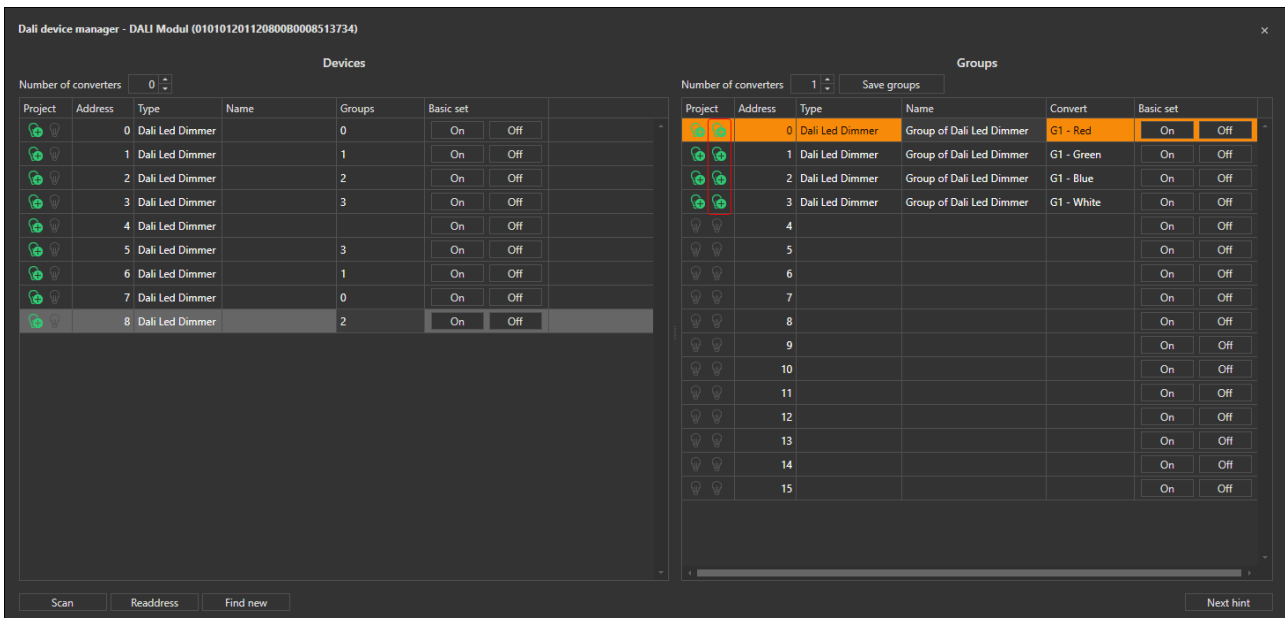
If the "Number of converter devices " is increased for the groups, a new column "Convert" is opened for the groups.



The corresponding color can now be selected in the "Convert" column.



If everything is configured completely, a new "Add" symbol is displayed.



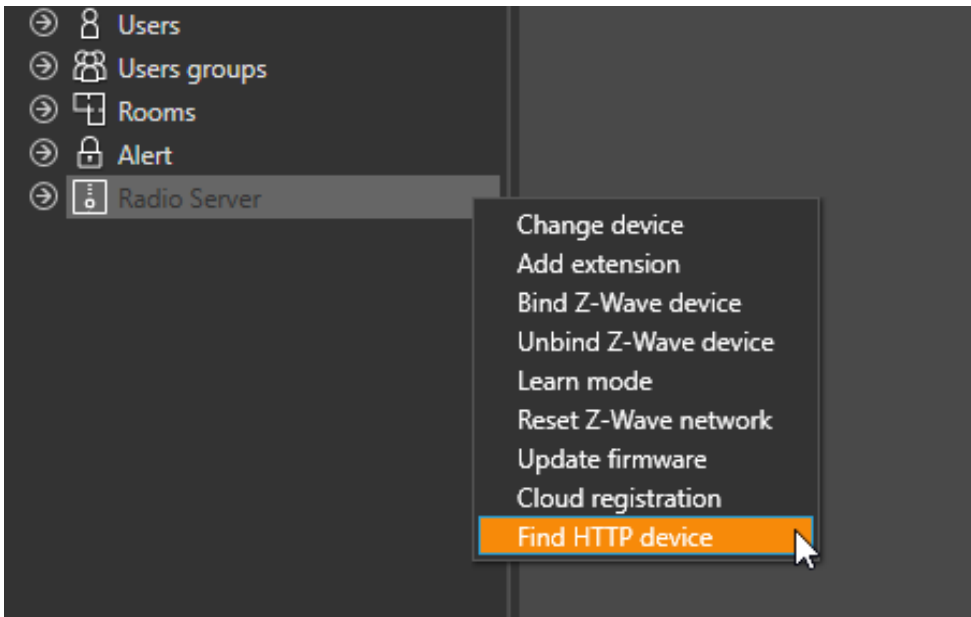
The individual colours can be combined into one color device and added to the project by clicking the "+" in the red marked field.

It can be added to the project as a group and is now displayed as "On" color device.

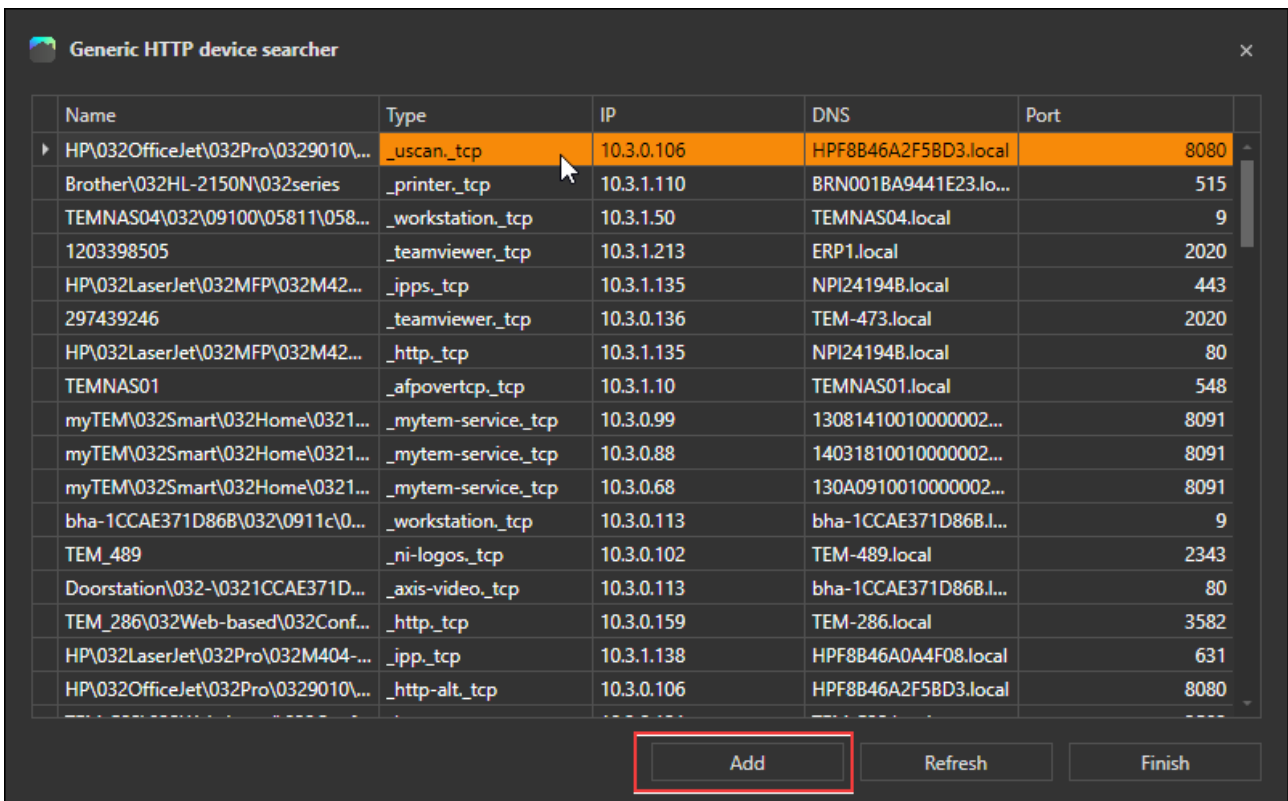
## 3.6 Network devices

### 3.6.1 Generic Network Device Explorer

With the Generic Network Device explorer, you can display all devices that are on the same network as the server. To open the Generic Network Device explorer, right mouse click on the server and select Find Network Device.



When you open it, a search in the Network is started directly. All devices found are then displayed. The desired device can now be selected and added to the project by clicking on the Add button.



When adding a hostname, the hostname is already set you have to set the username and password. If necessary the settings port, certificate and protocol have to be adjusted.

Device	
Name	RC7020
Room	
Serial number	000000900000000000000000...
Id	9
Version	
Settings	
Port	80
Hostname or IP	rc7020.local
User name	USER
Password	•••
Certificate	<input checked="" type="checkbox"/>
Protocol	HTTP

### 3.6.2 RC7020

#### 3.6.2.1 Add devices

The RC7020 can be added via the menu Extension added (Chapter 3.2.1) or if connected to the server the Generic Network Device explorer (Chapter 3.6.1)

#### 3.6.2.2 Enter user data

User name and password must be set for authentication.

If the RC7020 is on the same network as the server, you can use the HTTP protocol on port 80. The hostname is **rc7020.local**, alternatively you can enter the IP address. Certificate must not be selected.

Settings	
Port	80
Hostname or IP	rc7020.local
User name	USER
Password	•••
Certificate	<input type="checkbox"/>
Protocol	HTTP

When connecting via VPN, the HTTPS protocol and port 443 are required. As hostname you must enter the specific VPN connection URL. Certificate must not be selected.

Settings	
Port	443
Hostname or IP	vpn94.temdns.ch
User name	USER
Password	••••••••
Certificate	<input type="checkbox"/>
Protocol	HTTPS



### 3.6.2.3 Add Inputs and Outputs

Inputs and Outputs can be added with a right mouse click on the respective Input/Output group.

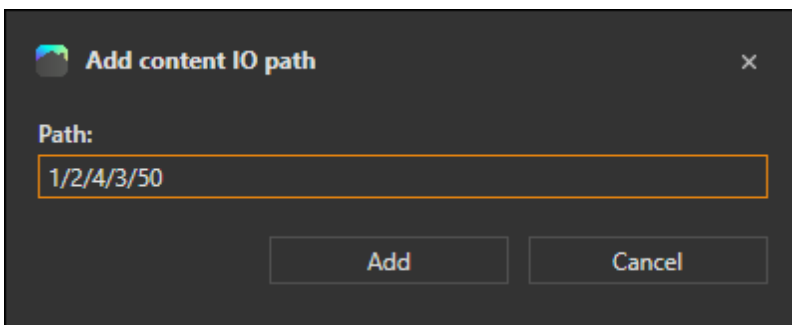


When adding Inputs or Outputs, a pop-up window opens in where you can enter the path from the desired data point.


The path is composed of the following components separated by a slash:

Example:

- 1/ eBus path (always 1)
- 2/ eBus address of the controller
- 4/ Function number
- 3/ first part of the parameter ID
- 50 second part of the parameter ID



The meaning of the parameters and the path can be determined via RC7020. The RC7020 has a web server, which can be accessed directly (see Chapter 3.6.2.2)



# RC7020

[\[German\]](#)  
[\[English\]](#)

Version: S 0.3.2; G 4.4.0

- ⊕ Configuration
- ⊖ System
  - Scan (Devices and functions)
  - Devices and functions
  - Parameter monitoring
  - Shortcut menu

(1) eBus

- (2) 6324 OGZ A10
- (3) 6324 OGZ A10
- (0) GLOBALFUNKTIONEN
- (1) ZUSATZKESSEL
  - (106) Settings
  - (124) Relay outputs
  - (126) Set and actual values
    - (0) 02:53 State heat generator control
    - (1) 02:80 Operation cycles
    - (2) 02:81 Operation hours
    - (3) 02:83 Operation cycles stage 2
    - (4) 02:82 Operation hours stage 2
- (156) Configuration
- (2) KESSEL
- (3) SOLARFUNKTION
  - (99) Settings
  - (116) Relay outputs
  - (119) Set and actual values
  - (156) unknown section

Index Name

0	02:53 State heat generator control
1	02:80 Operation cycles
2	02:81 Operation hours
3	02:83 Operation cycles stage 2
4	02:82 Operation hours stage 2

- Reload list +

After clicking Add, the new Inputs or Outputs is added. All settings are filled in automatically.

Settings	
Command	ws
Method	POST
Headers	Content-Type: application/xml
Content	<?xml version="1.0" encodi...
Regular expression	<value>(.*)</value>
Reconnect delay [s]	10

The input for alarms is included with the digital Inputs and is preconfigured. In case of an alarm message, the alarm is set to "On".

### 3.6.3 DoorBird

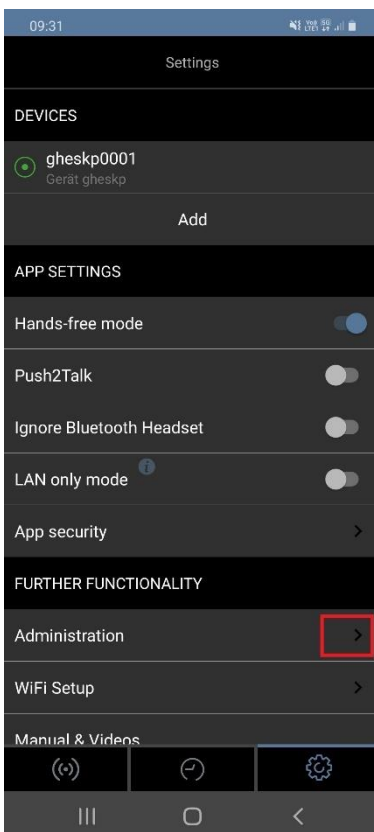
#### 3.6.3.1 Add Device

The device can be added using the menu Add Extension Chapter 3.2.1 or if connected to the server using the Generic Network Device Explorer Chapter 3.6.1. The DoorBird as Doorstation in the Generic Network Device Explorer. The type is **axis-video\_tcp**.

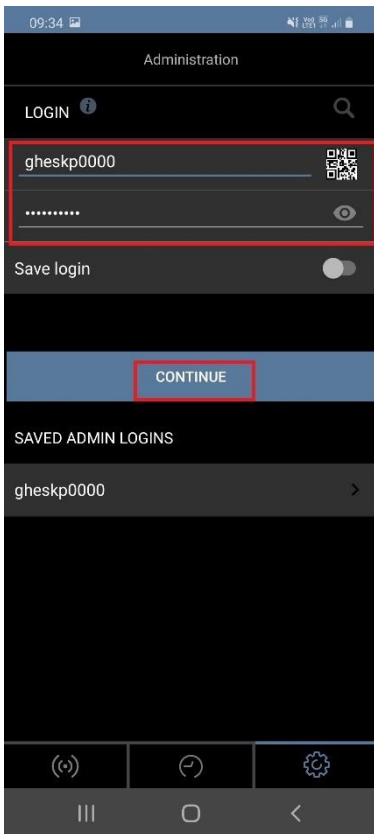
Doorstation\032-\0321CCAE371D...	_axis-video_tcp	10.3.0.113	bha-1CCAE371D86B.I...	80
----------------------------------	-----------------	------------	-----------------------	----

#### 3.6.3.2 Assign API operator rights

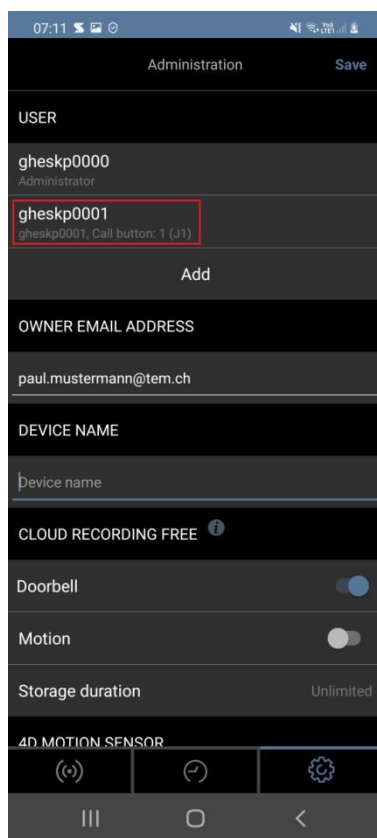
In order for the Smart Home Server to communicate via the DoorBird API, the DoorBird user must be given API operator rights. The rights can be assigned with the DoorBird App. To do this, first select Settings and then Administrator.



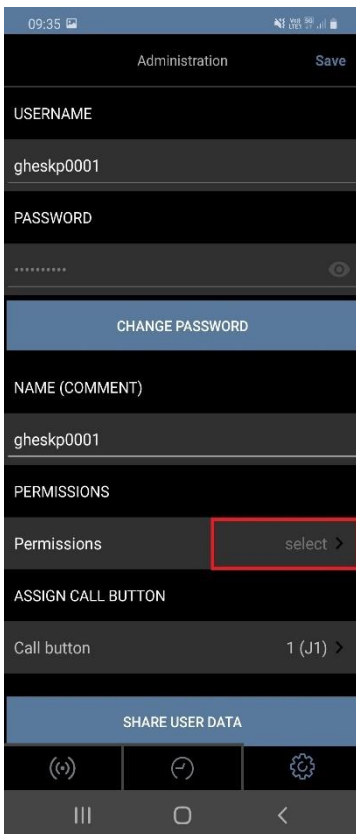
After that, you have to log in as Administrator.



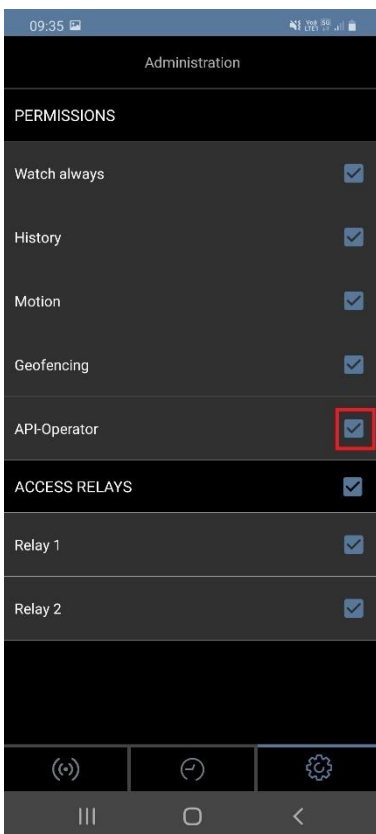
Then select the user.



Open access rights for the user.



For the access rights you have to set the check mark at API operator.



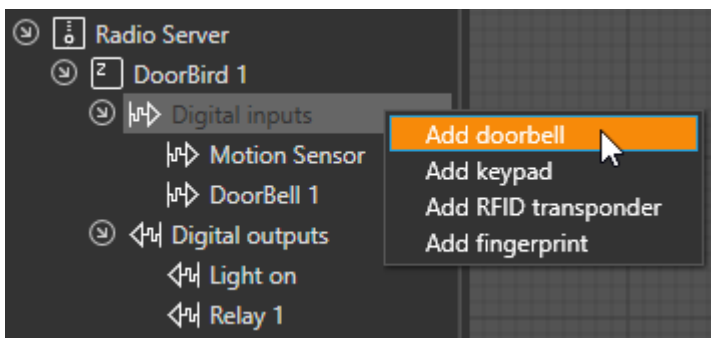
### 3.6.3.3 Set username and password

After adding the device you can enter the username and password of the user with API operator rights.

Device	
Name	DoorBird
Room	
Serial number	000000900000000000000000...
Id	0
Version	
Settings	
Port	443
Hostname or IP	bha-1CCAE371D86B.local
User name	
Password	
Certificate	<input type="checkbox"/>
Protocol	HTTPS

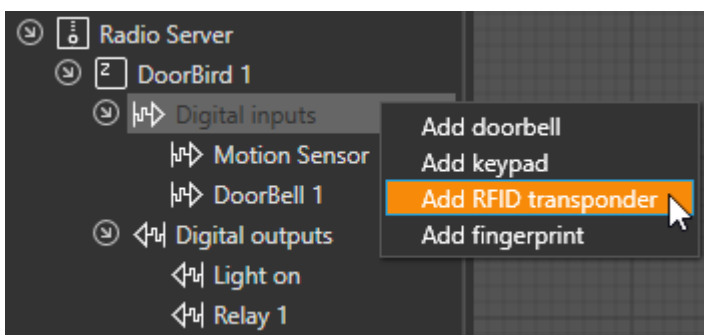
### 3.6.3.4 Doorbell

With a right mouse click on the Digital Entrances you can add more doorbells. If the device has several doorbells, DoorBell 1 shows the status of port 1, DoorBell 2 shows status of port 2 etc. With a right mouse click on the digital Outputs you can add more relay outputs.



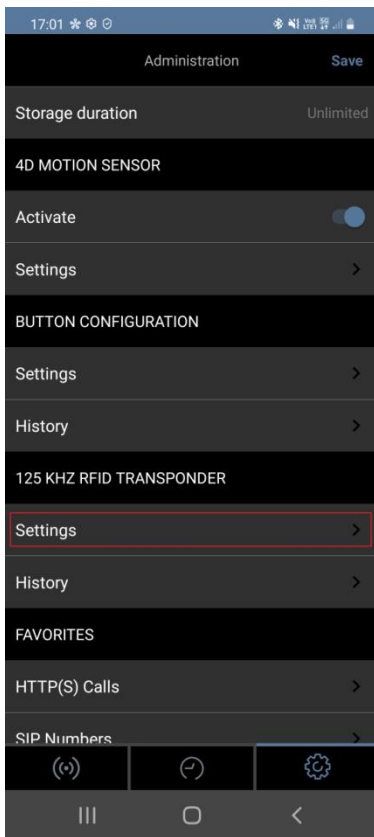
### 3.6.3.5 RFID transponder

With a right mouse click on the digital inputs, you can add RFID transponder inputs.

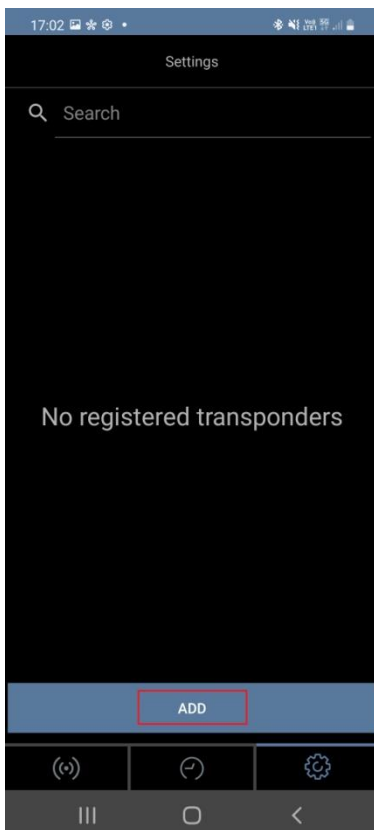


The RFID transponders must be read with the DoorBird app. Before that you have to save the project on the server so that the HTTP(S) links are created. In order for the HTTP(S) links to be created, the input must either be in the drawing or a check mark must be set in a front panel of a function block at the input. In the

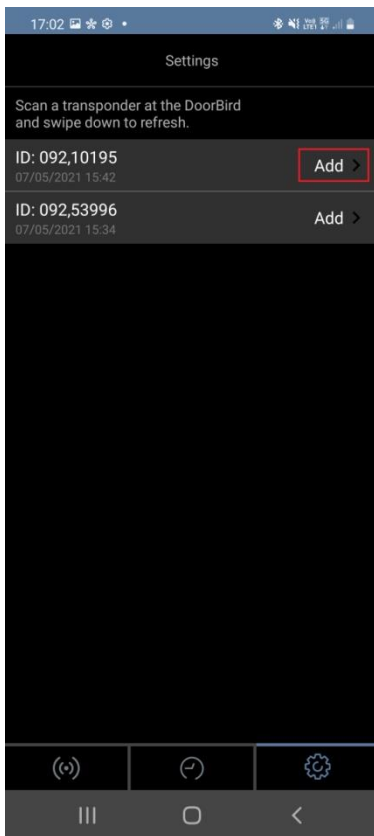
DoorBird app you have to log in as administrator first. How to log in as administrator is described in chapter 3.6.3.2. Then select settings for 125 kHz RFID transponder.



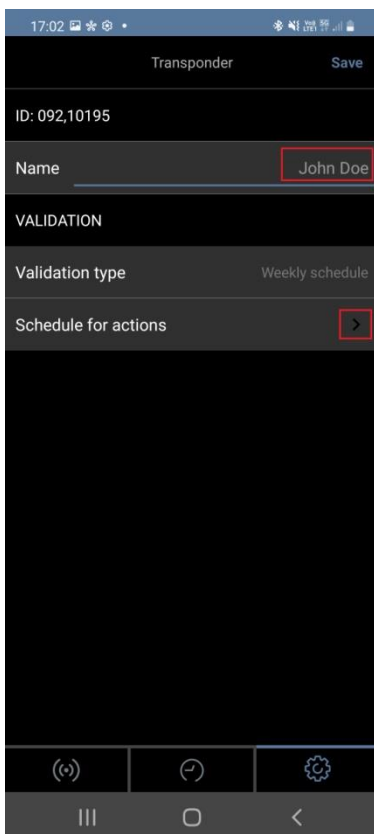
Select Add and hold the RFID transponder to the small black window below the speaker of the DoorBird door station.



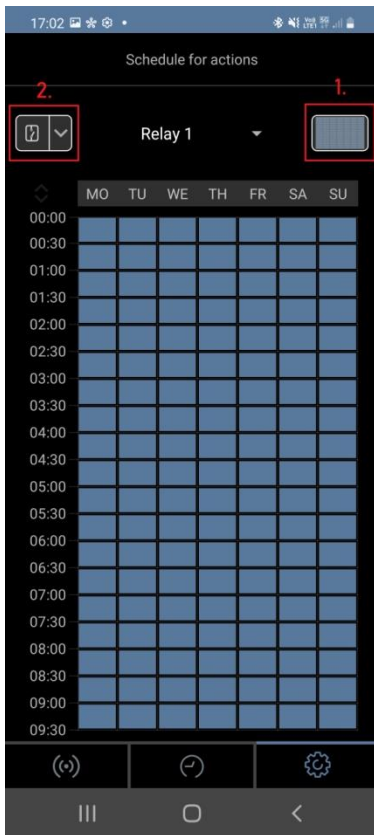
Then press Add on the scanned device.



Type a name and select schedule for actions.



By default, the selection is such that the RFID transponder directly switches the relay 1 when touching the DoorBird. To link this to the input in the ProgTool, you must first deactivate the active time at relay 1 by pressing at point 1 in the picture below. Then you can open the selection at point 2.

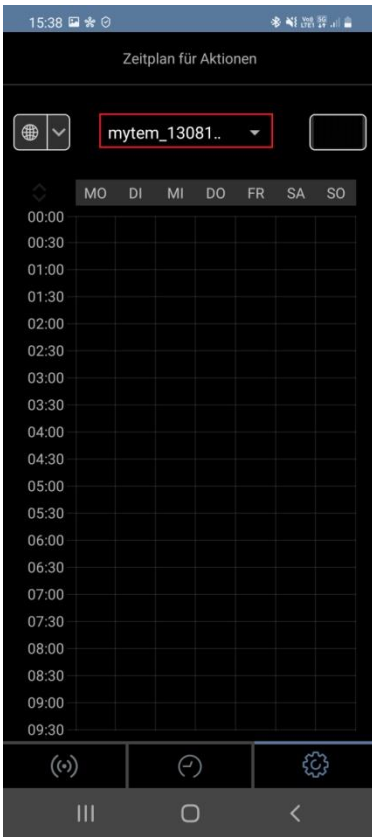


Select HTTP(S).

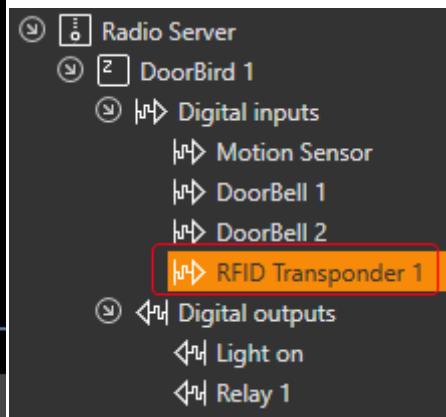




Then open the favourite selection in the centre.



The order of the links for the favourites corresponds to the order of the inputs in the project without the Motion Sensor and DoorBell 1. In this example, the second HTTP(S) link must be selected.

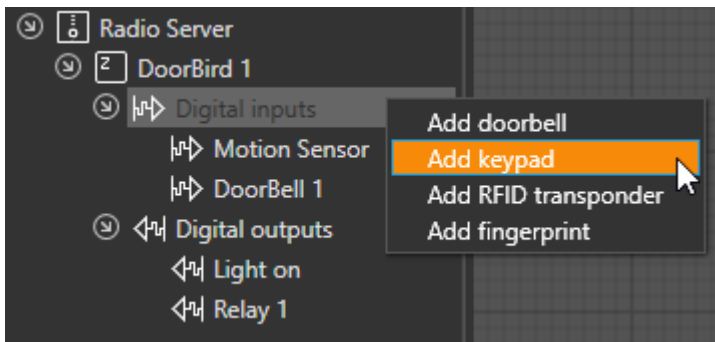


Now you can select when the RFID transponder should be active. By default, everything is deactivated. By pressing on the field at the top right, the entire period is activated.

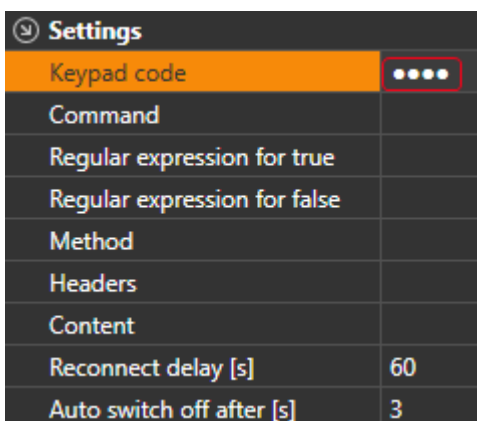


### 3.6.3.6 Keypad

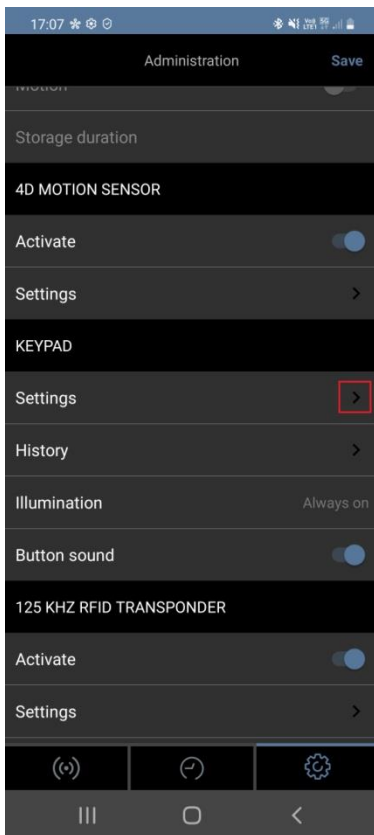
With a right mouse click on the digital inputs, you can add keypad inputs.



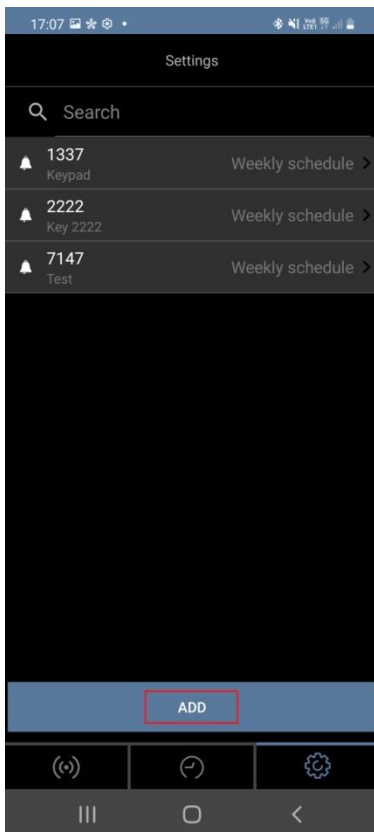
By Keypad Code, you can enter a four- to six-digit PIN code.



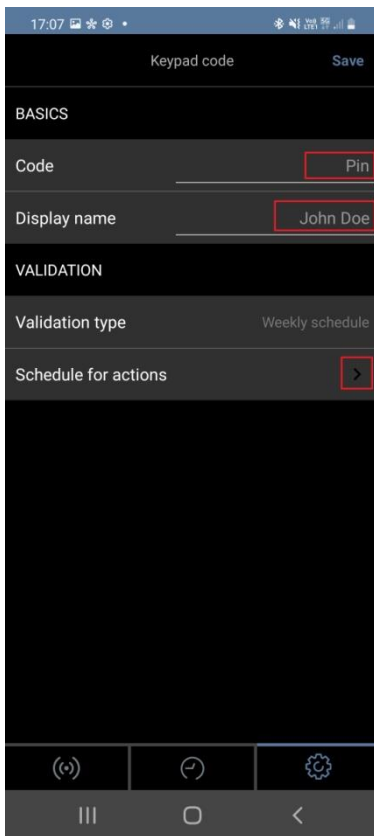
The PIN code must also be entered in the DoorBird app. Before that you have to save the project on the server so that the HTTP(S) links are created. In order for the HTTP(S) links to be created, the input must either be in the drawing or a check mark must be set in a front panel of a function block at the input. In the DoorBird app you have to login as administrator first. How to log in as administrator is described in chapter 3.6.3.2. Then select Settings by Keypad.



Select Add.



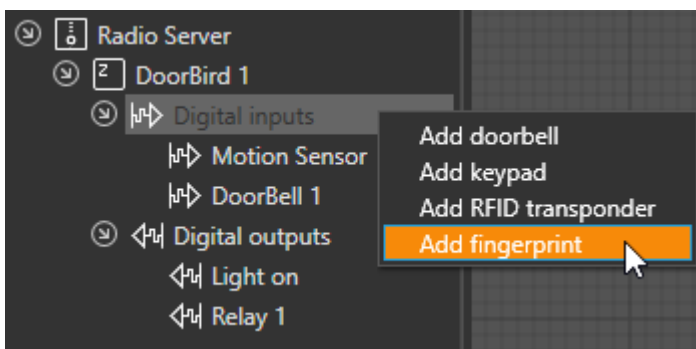
Enter the PIN code and a name. Then press schedule for actions.



The assignment of the HTTP(S) links is the same as for the RFID transponders 3.6.3.5.

### 3.6.3.7 Fingerprint

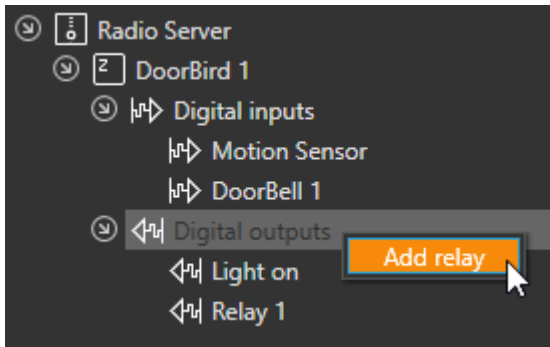
With a right mouse click on the digital inputs, you can add fingerprint inputs.



The fingerprints must be read in with the DoorBird app. Before that you have to save the project on the server so that the HTTP(S) links are created. In order to create the HTTP(S) links, the input must either be in the drawing or a check mark must be set in a front panel of a function block at the input. In the DoorBird app you have to log in as administrator first. How to log in as administrator is described in chapter 3.6.3.2. Then select settings for fingerprint. The assignment of the HTTP(S) links is done in the same way as for the RFID transponders 3.6.3.5.

### 3.6.3.8 Relay outputs

With a right mouse click on the digital outputs, you can add additional relay outputs.



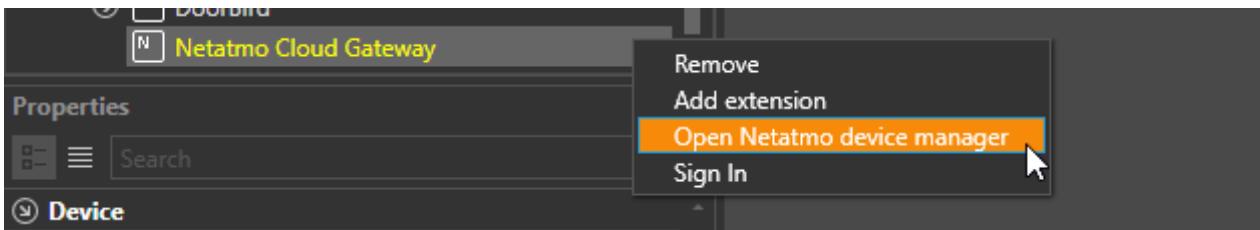
### 3.6.4 Netatmo

#### 3.6.4.1 Add Netatmo Cloud Gateway

With Add extension Chapter 3.2.1 you can add the Netatmo Cloud Gateway.

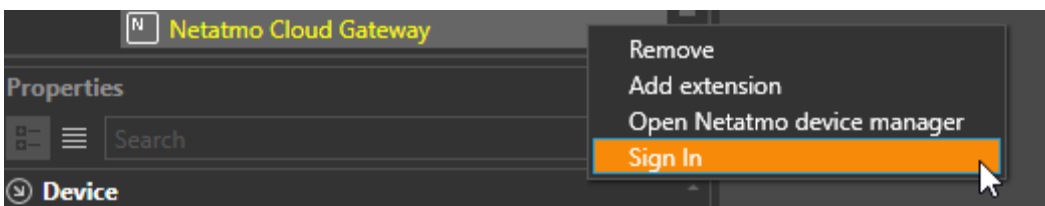
#### 3.6.4.2 Add Device

Netatmo devices can be installed with a right mouse click on the Netatmo Cloud Gateway.



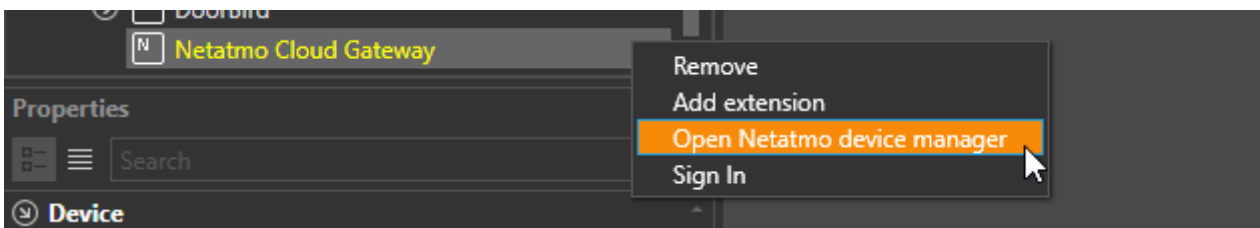
#### 3.6.4.3 Log In

With a right mouse click on the Netatmo Cloud Gateway you can log in.








#### 3.6.4.4 Device Manager

The Netatmo Device Manager can be opened with a right mouse click on the Netatmo Cloud Gateway.



In the Netatmo device manager, you can see all devices that are currently connected to the Netatmo Cloud Gateway. By clicking on the plus sign, the devices can be added to the project.

Netatmo device manager: temagchur@gmail.com

Toolbox	Name	Type	Serial number
	Entwicklung	Netatmo Weather Station	0000007000000070EE505EDBDC
	Netatmo Outdoor Modul	Netatmo Outdoor Modul	000000700000000200005F49E4
	Niederschlagsmesser	Netatmo Rain Gauge	000000700000000500000609D6
	Windmesser	Netatmo Anemometer	0000007000000006000003D2E2
	Dauertestraum	Netatmo Indoor Modul	0000007000000003000059BAEE

### 3.6.5 Generic network devices

#### 3.6.5.1 Add devices

Network devices can be added using the menu Add Extension Chapter 3.2.1 or if connected to the server using the Generic Network Device Explorer Chapter 3.6.1.

#### 3.6.5.2 Settings

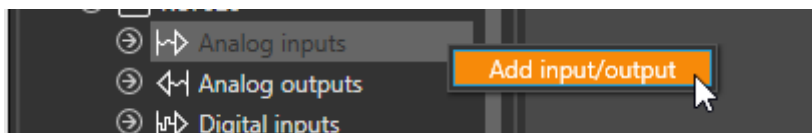
The default port for network devices is 80 for HTTP and 443 for HTTPS. The Network Device can be addressed by the host name or directly by the IP Address. The user name together with the password is required for authentication on the Network Device. Only Basic and Digest Access authentication is supported. If Certificate is selected, the certificate is checked for validity by the Network Device (only for HTTPS connections). Certificate must not be selected if the Network Device uses a self-signed certificate.

Settings

Port	80
Hostname or IP	
User name	
Password	
Certificate	<input checked="" type="checkbox"/>
Protocol	HTTP

#### 3.6.5.3 Add inputs and outputs

Inputs and outputs can be added with a right mouse click on the respective inputs/outputs group.



#### 3.6.5.4 Analog inputs

**Command;** Specific path and component of the HTTP(S) request.

**Method;** Specific method, GET, PUT or POST. If on method is selected, no request is sent.

**Headers;** Specific HTTP(S) headers.

**Content;** Specific message text of the HTTP(S) request.

**Regular Term;** Regular Term with a collection group. Regular Term can be used to filter patterns in a text. The captured data are used as analogue input values.

**Reconnection delay;** settings how often the request should be sent.

**Example with the data format JSON**

```
https://10.3.0.93/api/datapoint?id=3
```

```
{
  "datapoint": {
    "customname": "",
    "id": 1,
    "ioid": -1,
    "isconfiguration": true,
    "name": "VirtualOperationMode",
    "objectid": 1,
    "range": [
      "1",
      "3",
      "5"
    ],
    "remote": true,
    "type": 16,
    "value": 3,
    "writeprotect": false
  }
}
```

**Action**

The value at “value” is to be read as analog input.

**Settings**

The command to call the example code shown above on the Network Device is: [/api/datapoint/?id3](#). The Regular Term to filter the result at “value” is [“Value”:\(.\\*\)](#). The number to be used for the analog input is after [“value”](#): With [\(.\\*\)](#) the acquisition group is indicated. A dot can stand for any character, in the example the dot at the end is the comma, which does not belong to the acquisition group. Since the value is queried, the method is GET. With the setting reconnection delay [s] 10 the value is queried every 10 second.

Settings	
Command	/api/datapoint?id=3
Method	GET
Headers	
Content	
Regular express...	"value":(.*)
Reconnect dela...	10

**Example with SOAP**

```
https://vpn94.temdns.ch/ws
```

**HTTP Request Header**

```
POST /ws HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; MS Web Services Client Protocol
2.0.50727.1434)
Content-Type: text/xml; charset=utf-8
SOAPAction: http://ws01.lom.ch/soap/readDP
Host: 10.0.0.32
Content-Length: 413
Expect: 100-continue
```

**SOAP Request**

```
<?xml version="1.0" encoding="utf-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap">
  <SOAP-ENV:Body>
    <ns:readDpRequest>
      <ref>
        <oid>/1/2/4/119/0</oid>
      </ref>
      <startIndex>0</startIndex>
      <count>-1</count>
    </ns:readDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

**SOAP Response**



```

<soap-env:envelope
  xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap-enc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <soap-env:body>
    <ns:readdpresponse>
      <ref>
        <oid>
          /(1)EBusRoot/(13)I8263/(0)WE FSK Pellet/(0)group/(11)00:11/(0)
          00:11
        </oid>
        <prop>-r--</prop>
      </ref>
      <dp>
        <index>0</index>
        <name>00:11</name>
        <prop>-r--</prop>
        <desc>Scalar Var</desc>
        <value>37.5</value>
        <unit>°C</unit>
        <timestamp>252376498</timestamp>
      </dp>
    </ns:readdpresponse>
  </soap-env:body>
</soap-env:envelope>

```

## Action

The Value at <value> to call the example code shown above on the Network Device is **ws**. The header is Content-Type: **application/xml**. The content is the entire SOAP request. The header and content information of the SOAP request must be sent to the Network Device using the POST method, this respond with the SOAP Response where the values is contained at <value>. The regular term to display the value is **<value>(.\*)<Vvalue>**. With the setting reconnection delay [s] 60 the value is queried every 60 second.

Settings	
Command	ws
Method	POST
Headers	Content-Type: application/xml
Content	<?xml Version="1.0" encoding...
Regular expression	<value>(.*)<Vvalue>
Reconnect delay [s]	7

### 3.6.5.5 Analog outputs

**Command;** Specific path and component of the HTTP(S) request.

**Method;** Specific method, GET, PUT or POST. If on method is selected, no request is sent.

**Headers;** Specific HTTP(S) headers.

**Content;** Specific message text of the HTTP(S) request.  
The value of the Analog Output is marked with the tag <myTEM\_server\_TAG>.

**Example with the data format JSON**

```
https://10.3.0.93/api/datapoint?id=1
```

```
{
  "datapoint": {
    "customname": "",
    "id": 1,
    "ioid": -1,
    "isconfiguration": true,
    "name": "VirtualOperationMode",
    "objectid": 1,
    "range": [
      "1",
      "3",
      "5"
    ],
    "remote": true,
    "type": 16,
    "value": 3,
    "writeprotect": false
  }
}
```

**Tasks**

The value at <value> should be changed with the value of the Analog Output.

**Settings**

The command to change the value shown above at <value> in the example code on the Network Device is [/api/datapoint?id=1&value=](#). The [<myTEM\\_server\\_TAG>](#) mark is replaced by the value at the Analog Output. Since the value is written, the method is PUT.

Settings	
Command	/api/datapoint?id=1&value=<myTEM_server_TAG>
Method	
Headers	
Content	
Regular expression	

**Example with SOAP**

```
https://vpn94.temdns.ch/ws
```

**HTTP Request Header**

```
POST /service HTTP/1.1
User-Agent: Fiddler
Content-Type: text/xml; charset=utf-8
SOAPAction: "http://ws01.lom.ch/soap/readDP"
Host: 10.0.0.32
Content-Length: 542
```

**SOAP Request**

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <SOAP-ENV:Body>
    <ns:writeDpRequest>
      <ref>
        <oid>/1/13/0/0/11/0</oid>
      </ref>
      <startIndex>0</startIndex>
      <count>-1</count>
    </ns:writeDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

### HTTP Response Header

```

HTTP/1.1 200 OK
Server: ICOM/x.y
Content-Type: text/xml;
charset=utf-8
Connection: close
Content-Length: 628

```

### SOAP Response

```

<soap-env:envelope
  xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap-enc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <soap-env:body>
    <ns:readdpresponse>
      <ref>
        <oid>
          /(1)EBusRoot/(13)18263/(0)WE FSK Pellet/(0)group/(11)00:11/(0)
          00:11
        </oid>
        <prop>-r--</prop>
      </ref>
      <dp>
        <index>0</index>
        <name>00:11</name>
        <prop>-r--</prop>
        <desc>Scalar Var</desc>
        <value>37.5</value>
        <unit>°C</unit>
        <timestamp>252376498</timestamp>
      </dp>
    </ns:readdpresponse>
  </soap-env:body>
</soap-env:envelope>

```

### Tasks

The value at <value> should be changed.

### Settings

The command to call the example code shown above on the Network Device is ws. The header is Content-Type: ***application/xml***. The content consist of the SOAP request, where the value is written from the Analog Output with the tag <myTEM\_server\_TAG>.

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <SOAP-ENV:Body>
    <ns:writeDpRequest>
      <ref>
        <oid>1/13/0/0/11/0</oid>
      </ref>
      <dp>
        <index>0</index>
        <value>
          <myTEM_server_TAG>
        </value>
      </dp>
    </ns:writeDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

The Header and content information of the SOAP request must be sent to the Network Device using the POST method, and these responses must be sent with the SOAP response with the modified value.

Settings	
Command	ws
Method	POST
Headers	Content-Type: application/xml
Content	<?xml version="1.0" encoding=" ...

### 3.6.5.6 Digital inputs

**Command;** Specific path and component of the HTTP(S) request.

**Regular term for correct;** Regular terms can be used to filter patterns in a text. If the Regular Term is found in the text, the Digital Input switches to "On". The Regular Term for "On" is evaluated first, if the pattern is not found, the Regular Term for "Off" is evaluated. If the field is empty, it always matches every pattern.

**Regular term for false;** Regular term can be used to filter patterns in a text. If the Regular term is found in the text, the Digital Input switches to "Off". The Regular term for false will only be evaluated if the Regular term for correct does not find a matching pattern. If the field is empty it always matches any pattern.

**Method;** Specific method, GET, PUT or POST. If no method is selected, no request is sent.

**Headers;** Specific HTTP(S) headers.

**Content;** Specific message text of the HTTP(S) request.

**Reconnection delay;** Setting how often the request should be sent.

**Automatic switch-off after;** This setting determines the time after which a value is reset to "Off" after it has been set to "On" by the Network Device. This function is useful when a Network Device only send command for "On" and none for "Off".

**Example with the data format JSON**

```
https://10.3.0.93/api/datapoint?id=1
```

```
{
  "datapoint": {
    "customname": "",
    "id": 1,
    "ioid": -1,
    "isconfiguration": true,
    "name": "VirtualOperationMode",
    "objectid": 1,
    "range": [
      "1",
      "3",
      "5"
    ],
    "remote": true,
    "type": 16,
    "value": 3,
    "writeprotect": false
  }
}
```

**Tasks**

The Digital Input should be “on” if the value at “value” is 5 and “Off” if it is 3.

**Settings**

The command to call the example code shown above on the Network Device is [/api/datapoint/?id=1](#). The regular term for on is “value”:5, and “value”:3, for off. Since the value is queried, the method is GET. With the setting reconnection delay [s] 10 the value us queried every 10 seconds.

⌵ Settings	
Command	/api/datapoint?id=1
Regular expression f...	"value": (5),
Regular expression f...	"value": (3),
Method	GET
Headers	
Content	
Reconnect delay [s]	10
Auto switch off after...	0

**Example with SOAP**

```
https://vpn94.temdns.ch/ws
```

HTTP Request Header

```

POST /ws HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; MS Web Services Client Protocol
2.0.50727.1434)
Content-Type: text/xml; charset=utf-8
SOAPAction: http://ws01.lom.ch/soap/readDP
Host: 10.0.0.32
Content-Length: 413
Expect: 100-continue

```

## SOAP Request

```

<?xml version="1.0" encoding="utf-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <SOAP-ENV:Body>
    <ns:readDpRequest>
      <ref>
        <oid>/1/2/4/119/0</oid>
      </ref>
      <startIndex>0</startIndex>
      <count>-1</count>
    </ns:readDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

## SOAP Response

```

<soap-env:envelope
  xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap-enc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <soap-env:body>
    <ns:readdpresponse>
      <ref>
        <oid>
          /(1)EBusRoot/(13)18263(0)WE FSK Pellet(0)group/(11)00:11/(0)
          00:11
        </oid>
        <prop>-r--</prop>
      </ref>
      <dp>
        <index>0</index>
        <name>00:11</name>
        <prop>-r--</prop>
        <desc>Scalar Var</desc>
        <value>37.5</value>
        <unit>°C</unit>
        <timestamp>252376498</timestamp>
      </dp>
    </ns:readdpresponse>
  </soap-env:body>
</soap-env:envelope>

```

### Tasks

If the value of “value” in the SOAP Response is greater than 30 and less than 60, the Digital Input should be set to “On”, otherwise to “Off”.

### Settings

The command call the example Code shown above on the Network Device is ws. The header is Content-Type: application/xml. The content is the entire SOAP request. The information in the header and content of the SOAP request must be sent to the Network Device using the POST method, this response ,must then be sent with the SOAP response where the value is contained in “value”. The regular term to evaluate the value for “On” is <value>([3-5]d)</value>. The value to be evaluated is after <value>. The first digit should be between 3 and 5 [3-5]. The next digit is decimal from 0 to 9, you can indicate this with the term d. After the value comes </value>. The backslash \ is needed to mark the slash /. With the setting reconnection delay [s] 10 the value is queried every 10 seconds.

Settings	
Command	ws
Regular expression f...	<value>([3-5])</value>
Regular expression f...	
Method	POST
Headers	Content-Type: application/xml
Content	<?xml version="1.0" encoding=...
Reconnect delay [s]	10
Auto switch off after...	0

#### 3.6.5.7 Digital Outputs

**Command for correct;** Specific path and component of the HTTP(S) request when the outputs is switched to “on”.

**Command for wrong;** Specific path and component of the HTTP(S) request when the output is switched to “Off”.

**Method for correct;** Specific method,GET, PUT or POST if the output is switched to “On”. If no method is selected, no request is sent.

**Method for wrong;** Specific method, GET, PUT or POST when the output is turned “Off”. If no method is selected, no request is sent.

**Header for correct;** Specific HTTP(S) headers when the output is switched to “On”.

**Header for false;** Specific HTTP(S) headers when the output is switched to “Off”.

**Content for correct;** Specific message text of the HTTP(S) request when the output is switched to “On”.

**Content for false;** Specific message text of the HTTP(S) request when the output is switched to “Off”.

#### Example for the data format JSON

```
https://10.3.0.93:443/api/datapoint?id=8
```

```
{
  "datapoint": {
    "customname": "",
    "id": 8,
    "ioid": -1,
    "isconfiguration":
false,
    "name":
"VirtualConnection",
    "objectid": 2,
    "range": [
      "false",
      "true"
    ],
    "remote": true,
    "type": 6,
    "value": false,
    "writeprotect": false
  }
}
```

### Task

With the Digital Output output “value” should be changeable between true and false.

### Settings

The command to call the example code shown above on the Network Device is [/api/datapoint?id=8](#). The value “value” can be set to “On” with [/api/datapoint?id=8&value=1](#) and to “Off” with [/api/datapoint?id=8&value=0](#). Since the value is written the method is PUT.

Settings	
Command for true	/api/datapoint?id=8&value=1
Command for false	/api/datapoint?id=8&value=0
Method for true	PUT
Method for false	PUT
Header for true	
Header for false	
Content for true	
Content for false	

### Example with SOAP

```
https://vpn94.temdns.ch/ws
```

### HTTP Request Header

```
POST /service HTTP/1.1
User-Agent: Fiddler
Content-Type: text/xml; charset=utf-8
SOAPAction: "http://ws01.lom.ch/soap/readDP"
Host: 10.0.0.32
Content-Length: 542
```



## SOAP Request

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <SOAP-ENV:Body>
    <ns:writeDpRequest>
      <ref>
        <oid>/1/13/0/0/11/0</oid>
      </ref>
      <startIndex>0</startIndex>
      <count>-1</count>
    </ns:writeDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

## HTTP Response Header

```
HTTP/1.1 200 OK
Server: ICOM/x.y
Content-Type: text/xml;
charset=utf-8
Connection: close
Content-Length: 628
```

## SOAP Response Header

```
<soap-env:envelope
  xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap-enc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <soap-env:body>
    <ns:readdpresponse>
      <ref>
        <oid>
          /(1)EBusRoot/(13)18263/(0)WE FSK Pellet/(0)group/(11)00:11/(0)
          00:11
        </oid>
        <prop>-r-</prop>
      </ref>
      <dp>
        <index>0</index>
        <name>00:11</name>
        <prop>-r-</prop>
        <desc>Scalar Var</desc>
        <value>37.5</value>
        <unit>°C</unit>
        <timestamp>252376498</timestamp>
      </dp>
    </ns:readdpresponse>
  </soap-env:body>
</soap-env:envelope>
```

**Task**

The value "value" should be 40 when the Digital Output is "Off" and 50 when the Digital Output is "On"

**Settings**

The command to call the example code shown above on the Network Device is ws. The header is Content Type: **application/xml**. The content consist of the SOAP request with the desired changes when switching to "On" and "Off".

**SOAP Request for "Off".**

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <SOAP-ENV:Body>
    <ns:writeDpRequest>
      <ref>
        <oid>1/13/0/0/11/0</oid>
      </ref>
      <dp>
        <index>0</index>
        <value>
          40
        </value>
      </dp>
    </ns:writeDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

**SOAP Request for "On"**

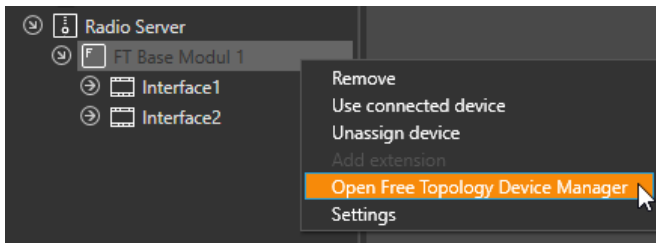
```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:ns="http://ws01.lom.ch/soap/">
  <SOAP-ENV:Body>
    <ns:writeDpRequest>
      <ref>
        <oid>1/13/0/0/11/0</oid>
      </ref>
      <dp>
        <index>0</index>
        <value>
          40
        </value>
      </dp>
    </ns:writeDpRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Settings	
Command for true	wa
Command for false	ws
Method for true	POST
Method for false	POST
Header for true	Content-Type: application/xml
Header for false	Content-Type: application/xml
Content for true	<?xml version="1.0" encoding=...
Content for false	<?xml version="1.0" encoding=...

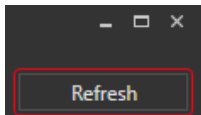
### 3.7 FreeTopology

To use FT, you need a FT Base Modul Extension. To actively integrate the devices into the system, you must be connected to the server (see chapter 0).

Click on the corresponding FT Base Modul extension in the project tab with the right mouse button to open the device manager.



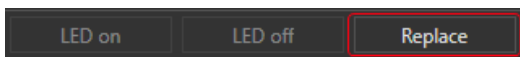
A new window opens and all FT devices that are connected to the FT Base Modul are added to the FT Base. Devices that are no longer connected to the FT Base Modul are removed. By clicking on "Refresh", this add/remove process is repeated.



For this step, all FT-devices must be running and functionally integrated in the system, i.e. connected to the FT-bus.

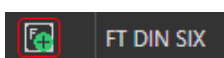
#### 3.7.1 Replace device

Devices can be replaced by clicking on "Replace". The new device must be connected to the same interface.

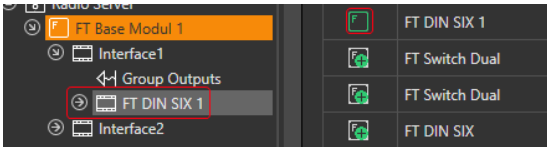


#### 3.7.2 Add device to project

To add a FT device to the project, the green icon must be clicked.

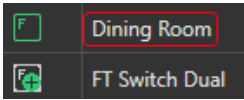


The green "Plus" symbol disappears after the click and the devices are listed under the interface of the FT Base Modul where they are connected.



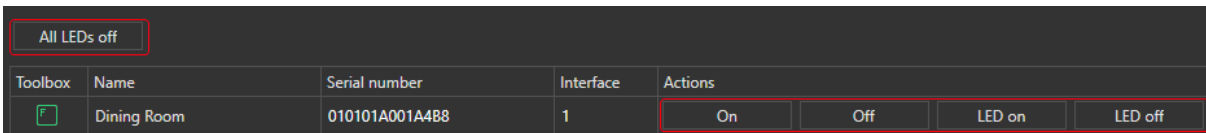
### 3.7.3 Change the device name

The device name can be changed either afterwards in the project tree or directly in the list.



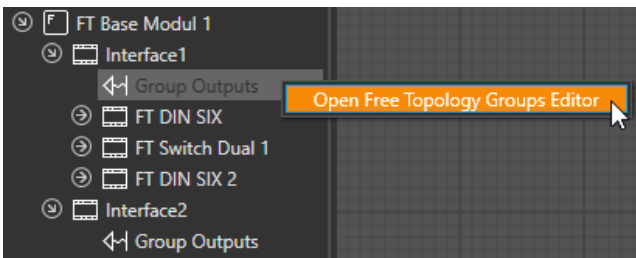
### 3.7.4 Test device

A FT-device can always (if it is present in the list) be switched on and off directly via the "On" and "Off" buttons. With the button "LED on" you can make the device LED blink blue. After a click on "LED off" the device LED shows the device state again. This serves for the simple identification of the individual devices. With "All LEDs off" or by closing the "Device manager" all device LEDs stop blinking blue.



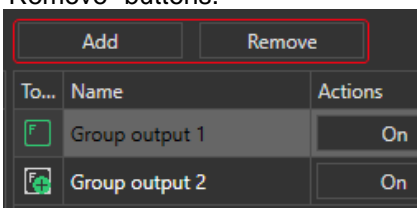
### 3.7.5 Groups

Use the right mouse button in the project tab to click on the corresponding "Interface" or the "Group Outputs" to open the FreeTopology Group Editor.



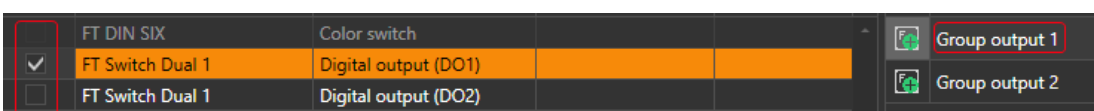
#### 3.7.5.1 Create groups

FT devices can be added to one or more groups. Groups can be created or deleted with the "Add" and "Remove" buttons.



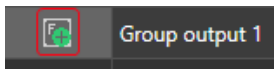
#### 3.7.5.2 Select device outputs for the group

To add a device output to a group, select the group in the right column and check the device outputs in the left column.

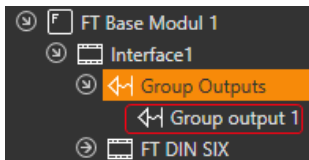


### 3.7.5.3 Add groups to project

To add a FT-Group to the project, the green icon must be clicked.

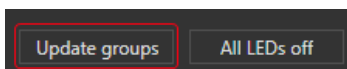


The green "Plus" symbol disappears after the click and the groups are listed under the "Group outputs" at the interface of the FT Base Modul.

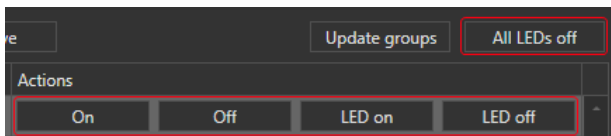


### 3.7.5.4 Test groups

If the outputs for a group are selected, the groups can be updated in the FT Base Modul by clicking on "Update groups".



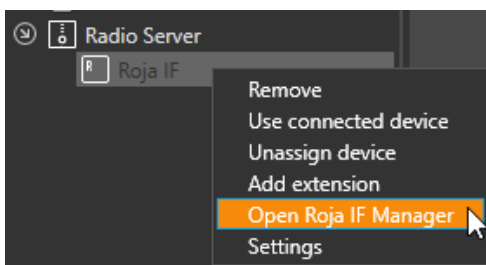
Only then can the outputs of a FT-group be switched on and off directly via the "On" and "Off" buttons. With the "LED on" button, you can make the device LED flash blue for all devices that belong to the group. After a click on "LED off" the device LEDs show the device state again. This serves for the simple identification of the devices in the group. With "All LEDs off" or by closing the "Group Editor" all device LEDs stop blinking blue.



## 3.8 Roja IF

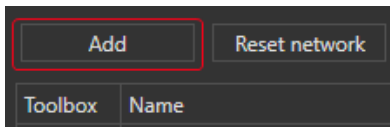
To use Roja IF devices, you need a Roja IF extension. To actively integrate the devices into the system, you must be connected to the server (see chapter 0).

Use the right mouse button to click on the corresponding Roja IF extension in the projects tab to open the device Manager.

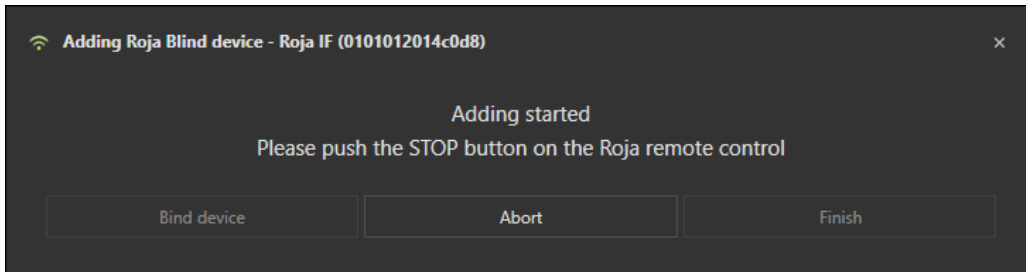


### 3.8.1 Add device

After clicking on "Add" a new window opens and devices can be added.

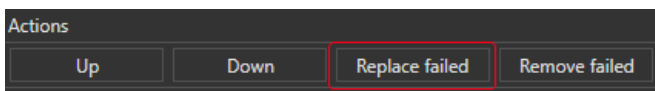


To do this, press the STOP button on the corresponding Roja remote control.

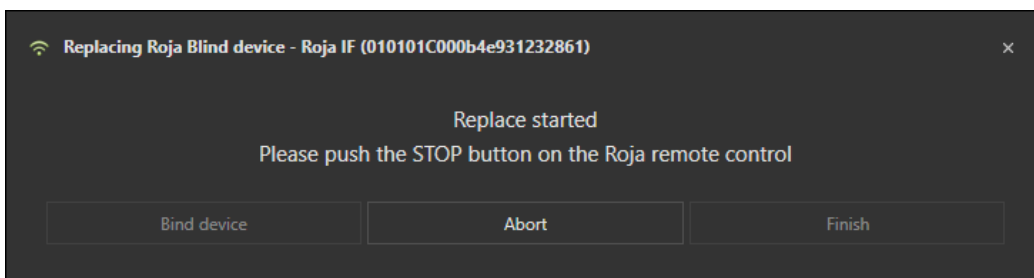


### 3.8.2 Replace device

After clicking on "Replace failed" a new window opens and devices can be replaced.

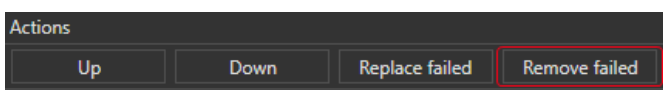


To do this, you need to press the STOP button for the new device on the remote control.



### 3.8.3 Remove device

Devices can be deleted by clicking on "Remove failed".



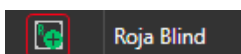
### 3.8.4 Reset network

Clicking on "Reset network" will delete all devices.

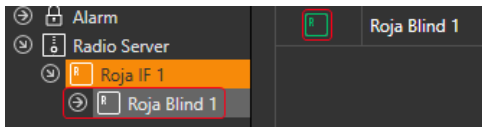


### 3.8.5 Add device to project

To add a device to the project, the green icon must be clicked.

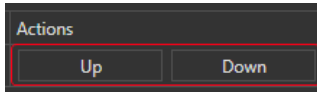


The green "Plus" icon disappears after the click and the devices are listed under the Roja IF.



### 3.8.6 Testing device

A Roja Blind device can always be controlled directly via the "Up" and "Down" buttons.

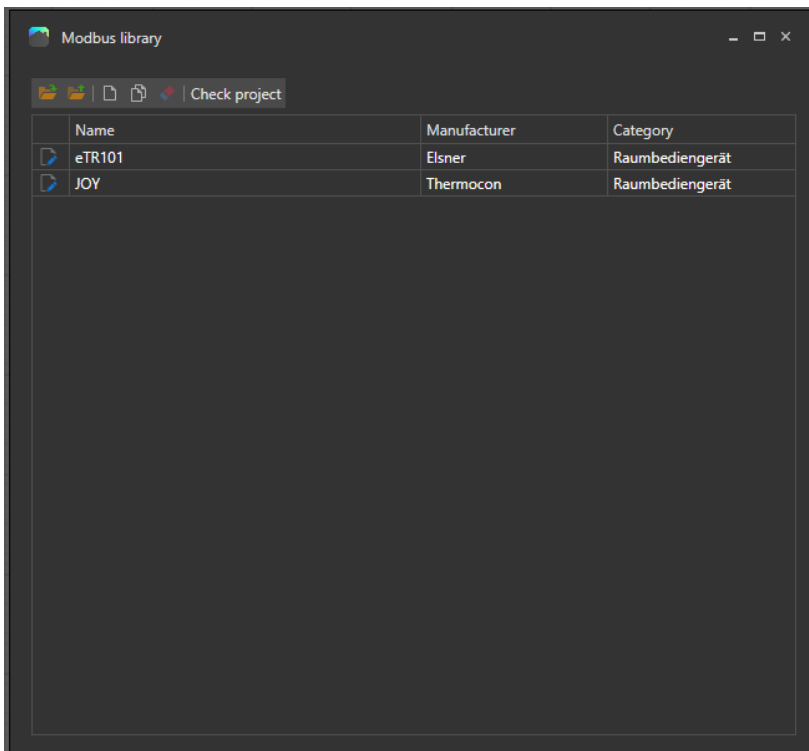


## 3.9 Modbus TCP/RTU

### 3.9.1 Modbus Library

The Modbus library can be found under Devices in the buttons in the upper operating bar.

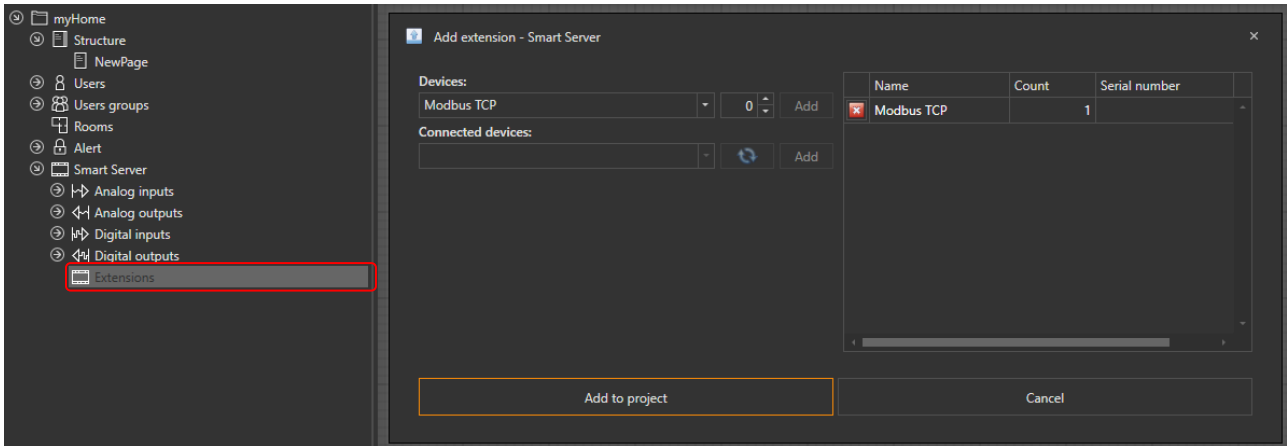
Modbus server/slave devices can be created there. These can be used if the myTEM Server is operated as a client/master.



### 3.9.2 Modbus TCP

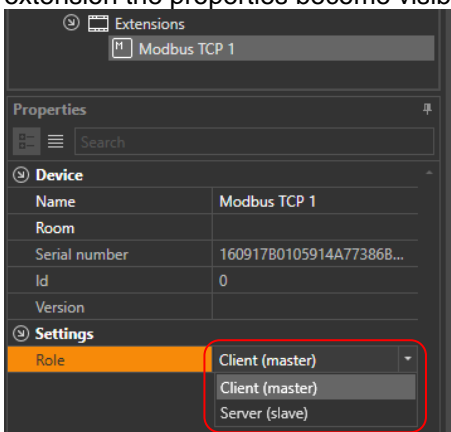
#### 3.9.2.1 Modbus TCP add Extension

Add Modbus TCP as an extension to the server.



#### 3.9.2.2 Modbus TCP Client/Master

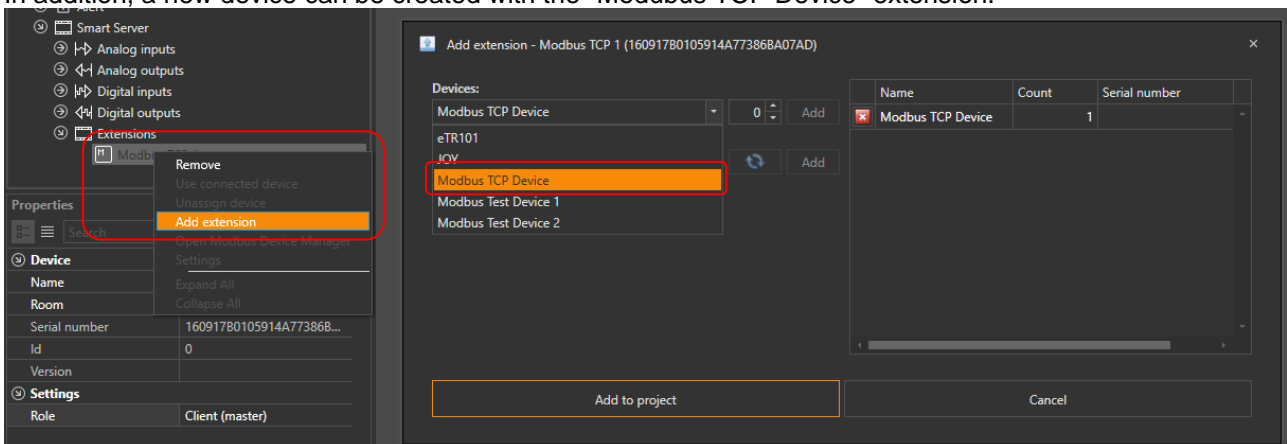
The myTEM server can be operated as a Modbus TCP client/master. With a left click on the Modbus extension the properties become visible, there you can choose between client and server.



If the myTEM server is operated as a client/master, Modbus server/slave devices can be added by right-clicking on the Modbus extension.

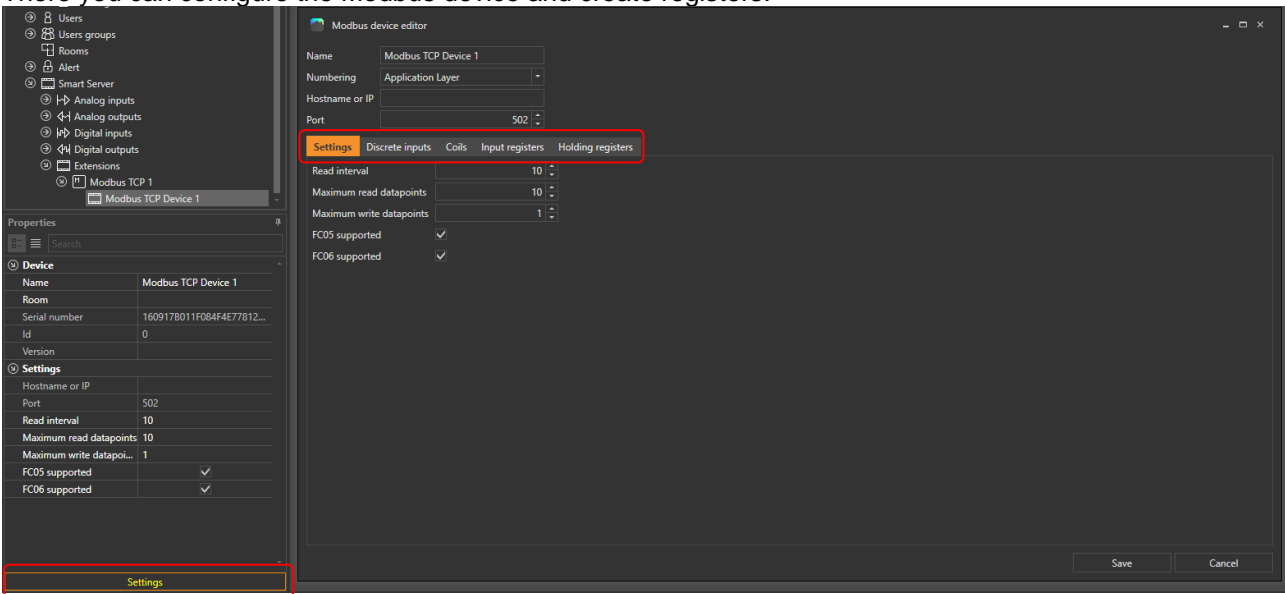
There you will find the devices that you have created in the Modbus library.

In addition, a new device can be created with the "Modbus TCP Device" extension.

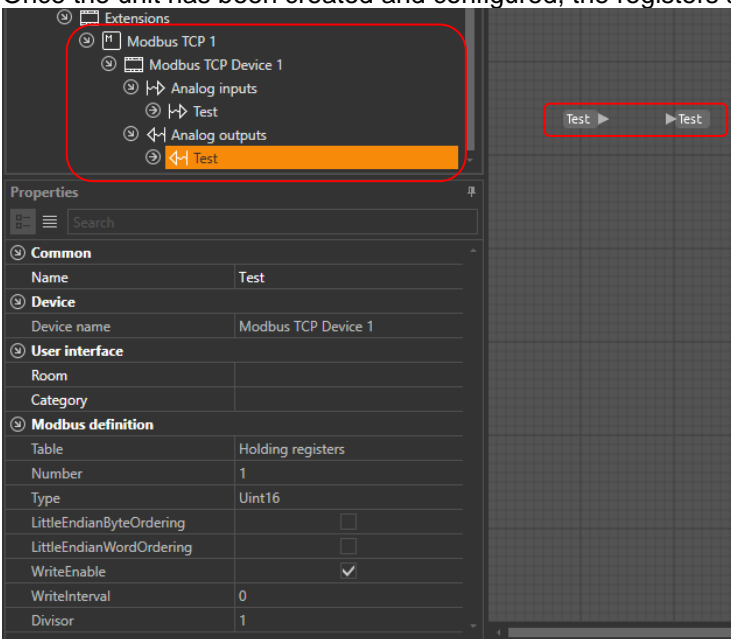




With a left click on the added Modbus device, you can make further settings and call up the "Settings" button. There you can configure the Modbus device and create registers.

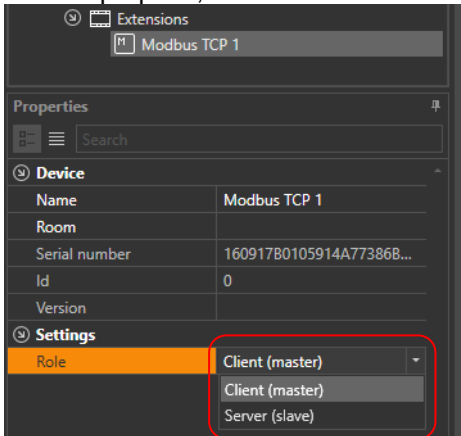


Once the unit has been created and configured, the registers are available as inputs and outputs as usual.

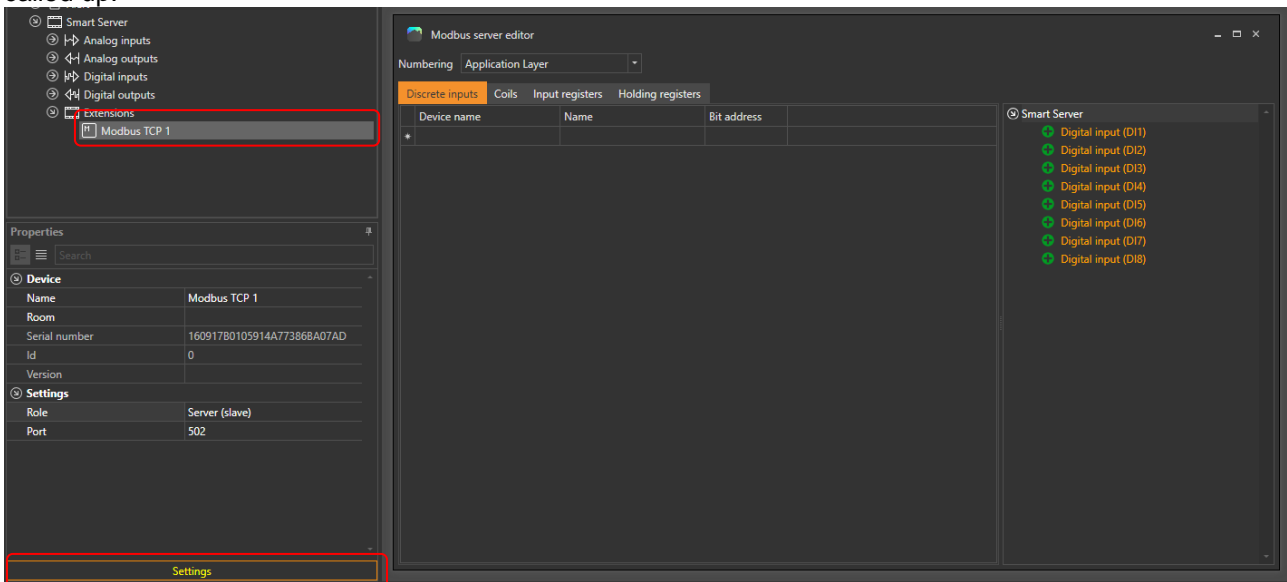


### 3.9.2.3 Modbus TCP Server/Slave

If the myTEM Server is operated as a server/slave, the myTEM Server sends data to a client/master. For this purpose, the Modbus extension is set to Server.



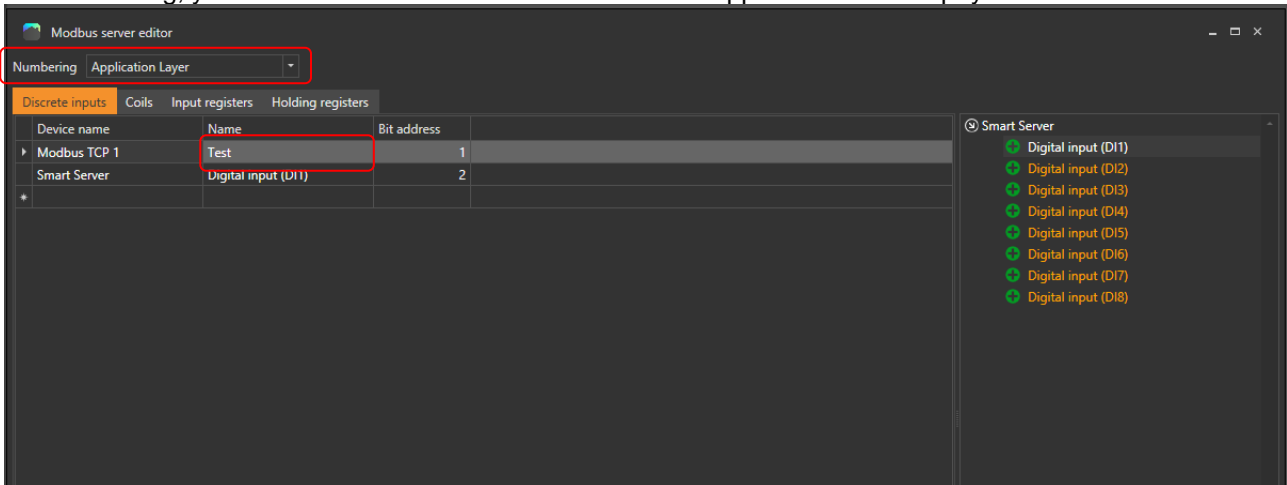
With a left click on the Modbus extension, the properties are called up, via which the "Settings" can also be called up.



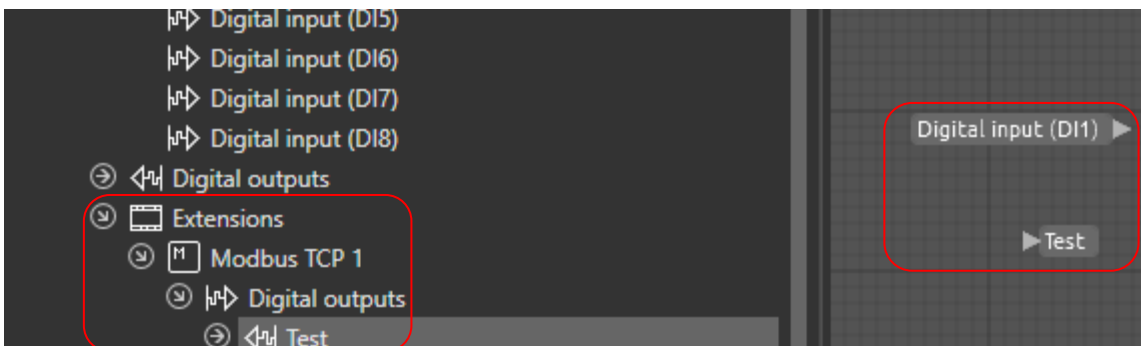
There, all hardware inputs and outputs in the project can be quickly and easily added as Modbus registers via the green plus signs on the right-hand side.

In addition, further Modbus data points can be added by clicking in the field in the "Name" column. These can then be processed in the project.

For numbering, you can select whether data is to be sent at application level or physical level.



The additionally created Modbus data points are then available for processing in the programme.

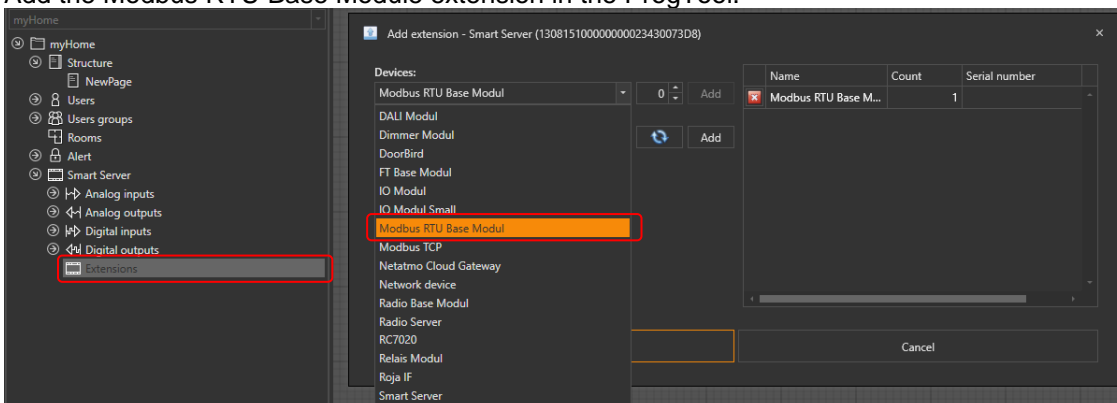


### 3.9.3 Modbus RTU

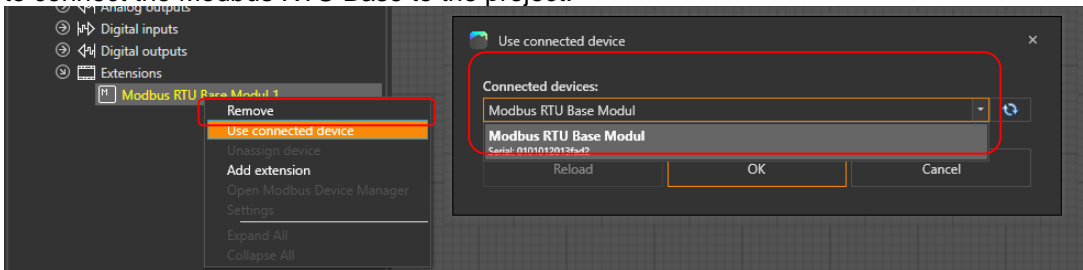
#### 3.9.3.1 Integrating Modbus RTU Base

A hardware extension is necessary for Modbus RTU. Pay attention to the operating instructions when installing it.

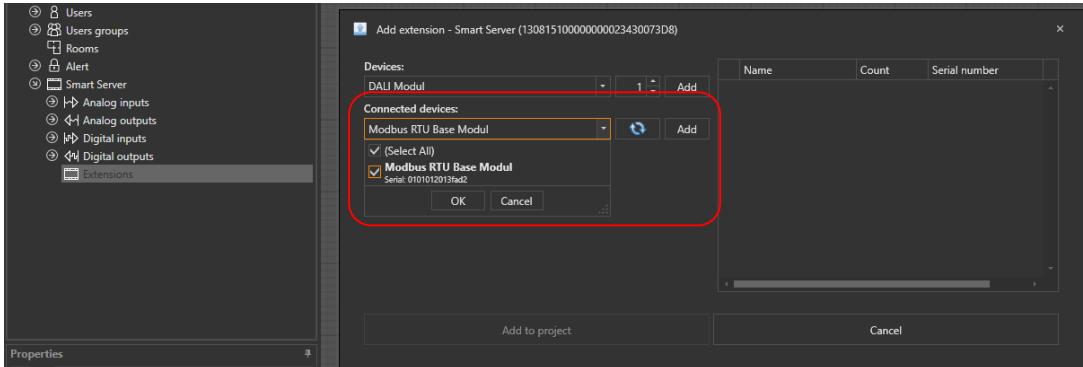
Add the Modbus RTU Base Module extension in the ProgTool.



Right-click on the Modbus extension displayed in yellow and click on the "Use the connected device" button to connect the Modbus RTU Base to the project.



The Modbus RTU Base can also be connected to the project in the "Add extension" menu. To do this, click on the Modbus RTU Base found under "Connected devices" and add it.



### 3.9.3.2 Modbus RTU Client/Master

With a left click on the Modbus RTU Base, the properties window is displayed. There, important settings such as baudrate, parity, stop bits and function can be selected.

If the Modbus RTU Base is operated as a client/master, the configuration is the same as for TCP mode, see chapter 3.9.2.2.

### 3.9.3.3 Modbus RTU Server/Slave

With a left click on the Modbus RTU Base, the properties window is displayed. Important settings such as baudrate, parity, stop bits and function can be selected there.

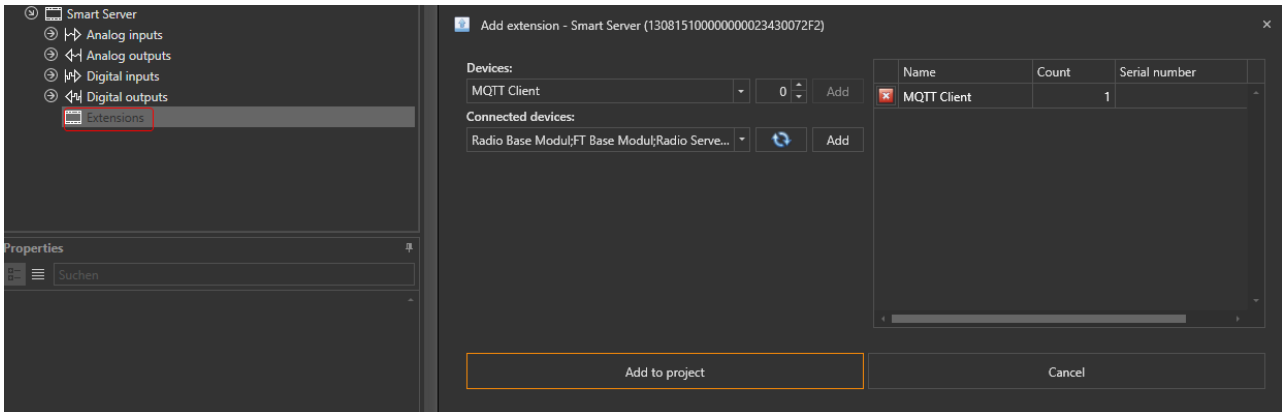
If the Modbus RTU Base is operated as a client/master, the configuration is the same as for TCP mode, see chapter 3.9.2.3.

### 3.10 MQTT Client

With the MQTT client, it is possible to send data to and receive data from a MQTT broker via the MQTT message protocol.

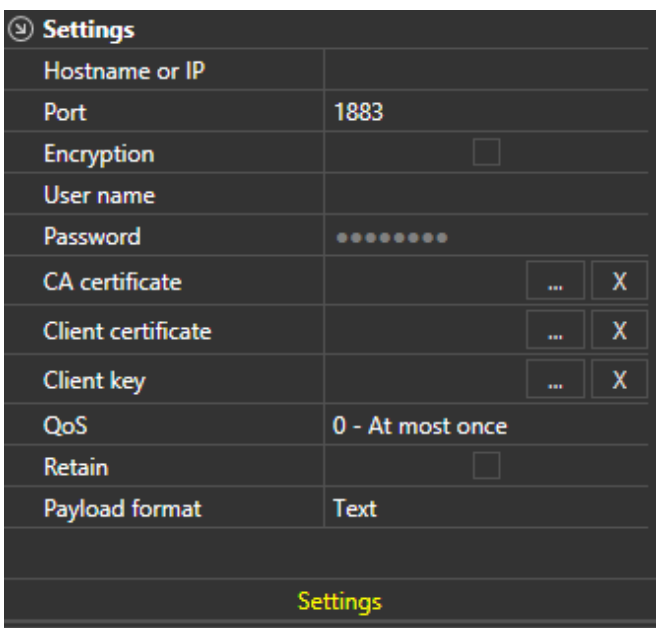
#### 3.10.1 Add MQTT client extension

Add the MQTT client to the server as an extension.



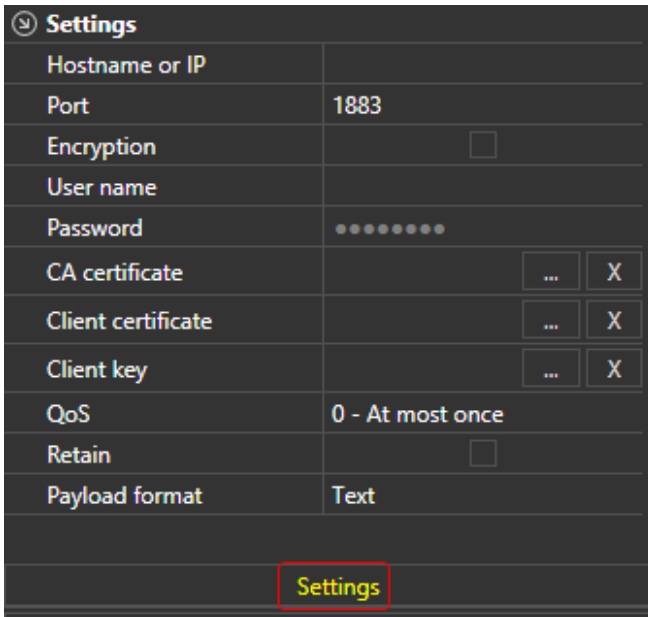
#### 3.10.2 MQTT client connection settings

The standard ports for MQTT are 1883 and 8883, in the myTEM ProgTool 1883 is set by default. The address of the MQTT broker must be specified for Hostname or IP. If "Encryption" is selected, the connection is encrypted with TLS. The authentication can be done with username and password or with certificates. Under QoS, the selected quality of service level can be selected from 0 to 2. With Payload format, the format can be selected between JSON, text and ATS binary. If retain is set, the messages are saved by the broker and sent to every client that has subscribed to a specific topic.

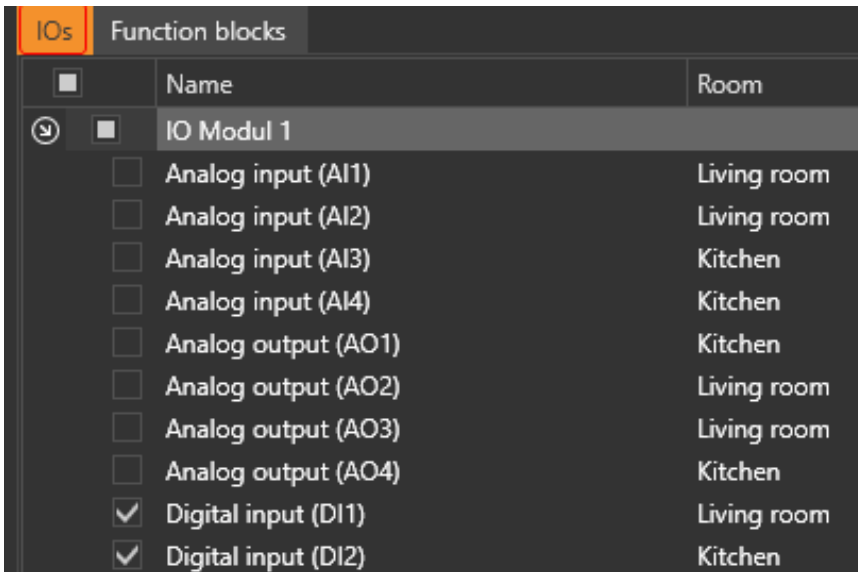


### 3.10.3 Function blocks and inputs and outputs

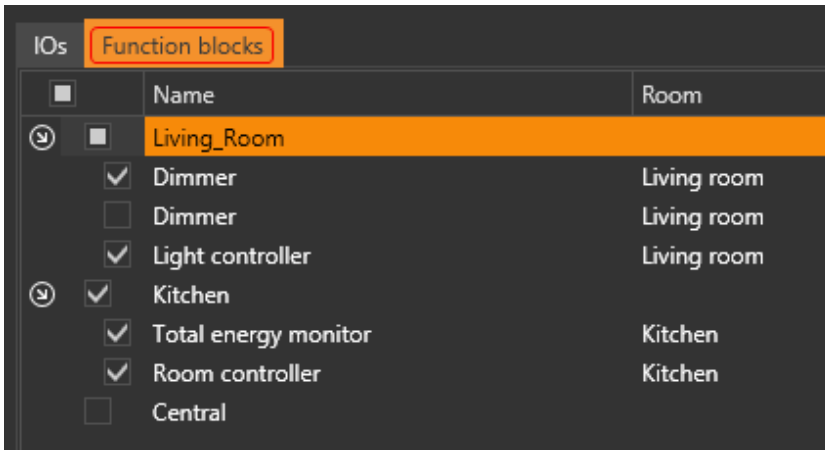
A click on "Settings" opens the configuration.



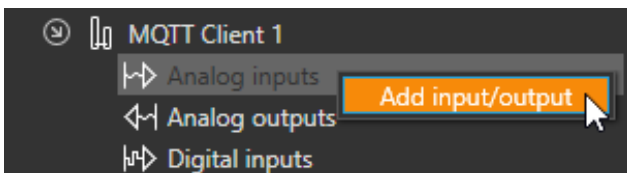
With IOs, the inputs and outputs of the devices from which the data should be sent to the MQTT broker can be selected.



Under Function blocks, all function blocks that are to be sent to the MQTT broker can be selected.



Additional inputs and outputs can be created to communicate with the MQTT broker and then used in the project. New inputs or outputs are created by right-clicking.



In the configuration, a topic must be entered, and the payload format selected. For JSON, a path must also be specified.

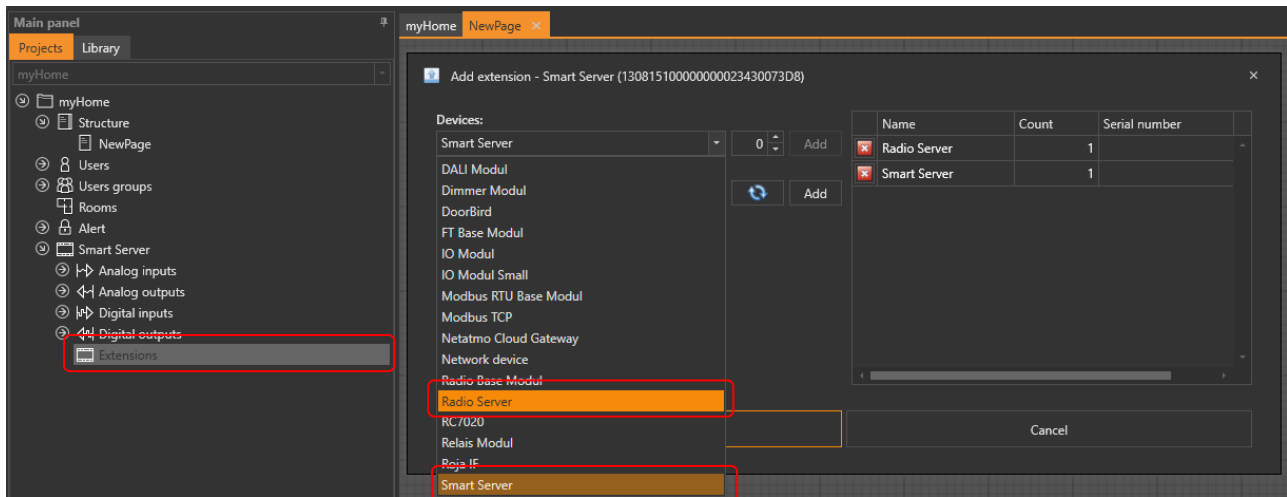
Configuration	
Topic	Analog Input
Payload format	JSON
JSON path	value

## 3.11 Multiserver

### 3.11.1 Add Multiserver

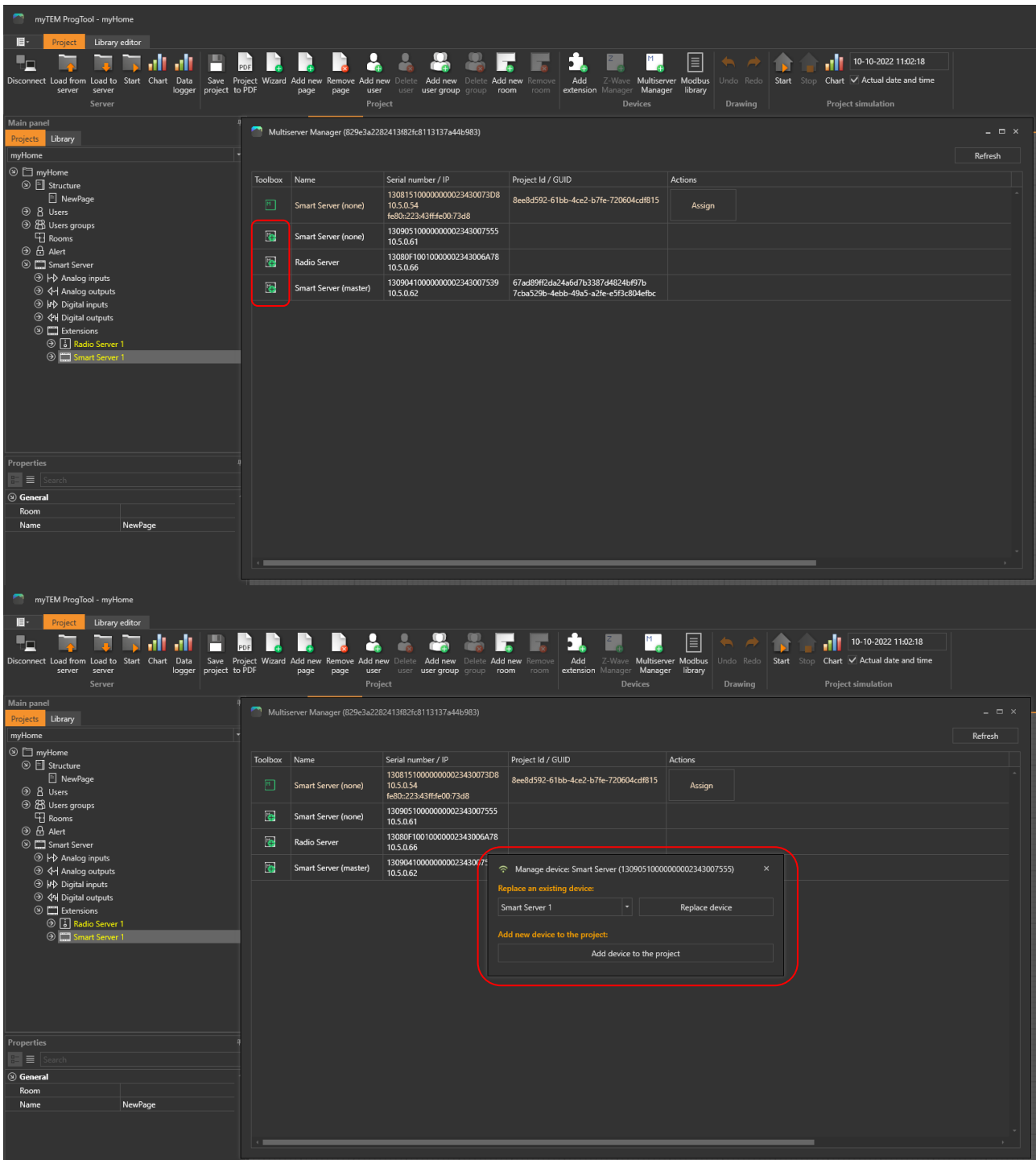
It is possible to connect up to 12 Smartservers or Radioservers to a multi-server system. The servers are connected via Ethernet and can thus be installed on different floors or in different parts of the building.

In a multi-server system, one server assumes the role of the master. As with the other extensions, additional servers are added to the master server via the "Add extension" menu.

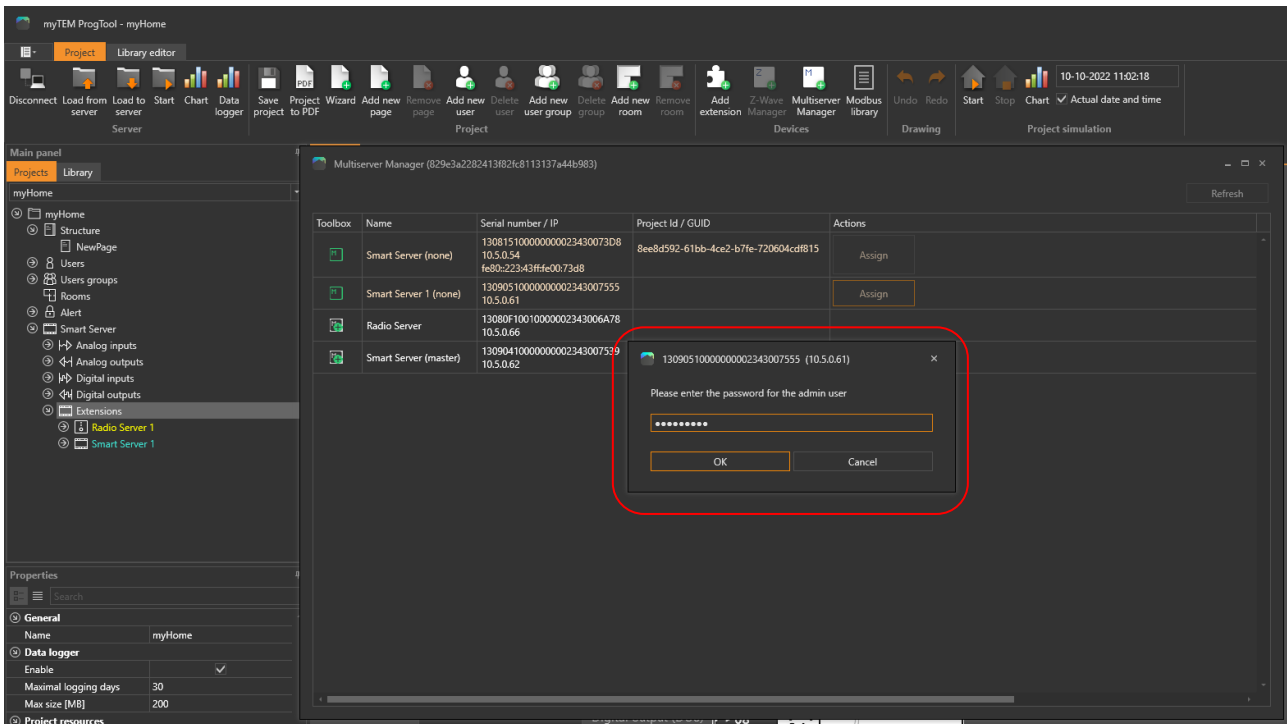


If servers have been added as extensions, they are marked in yellow. Now the servers must be assigned. In the upper bar of the operating elements you will find the button "Multiserver Administration" under "Devices". All servers found in the network are displayed here and can be added to the project by clicking on the green plus.

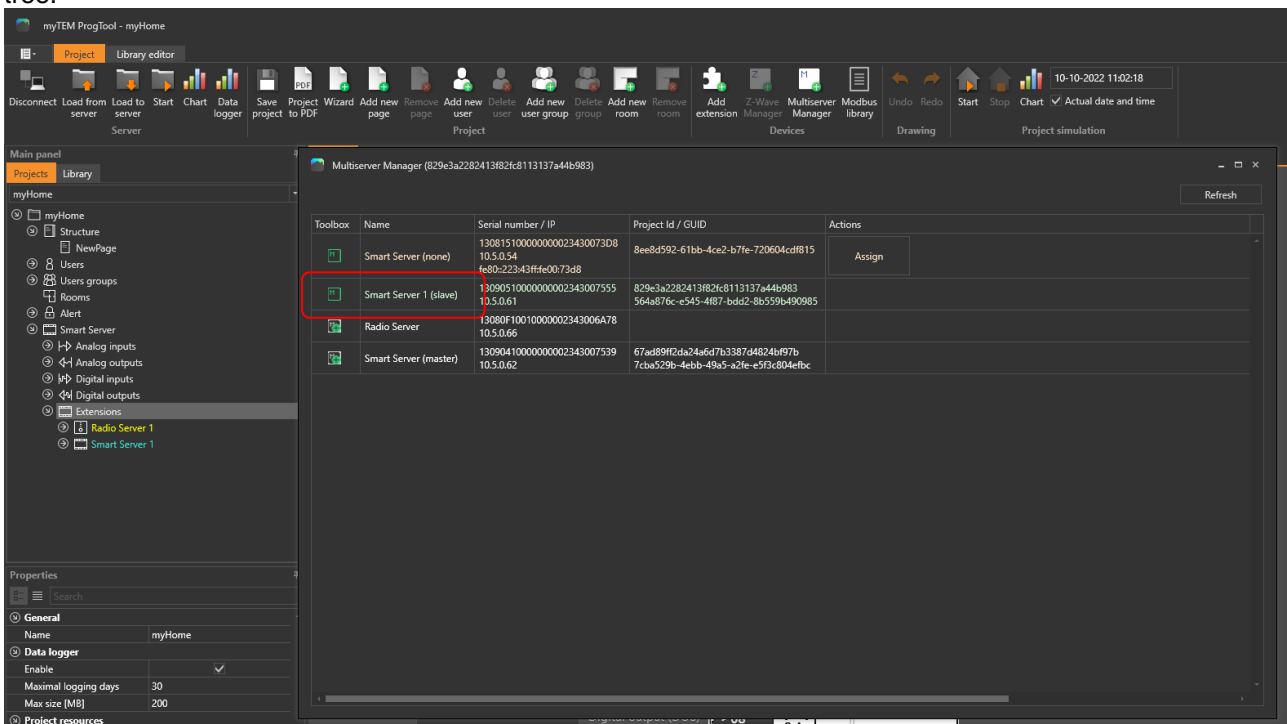




In the next step, the added server must be assigned. Click on the "Assign" button and enter the password of the server you want to assign.

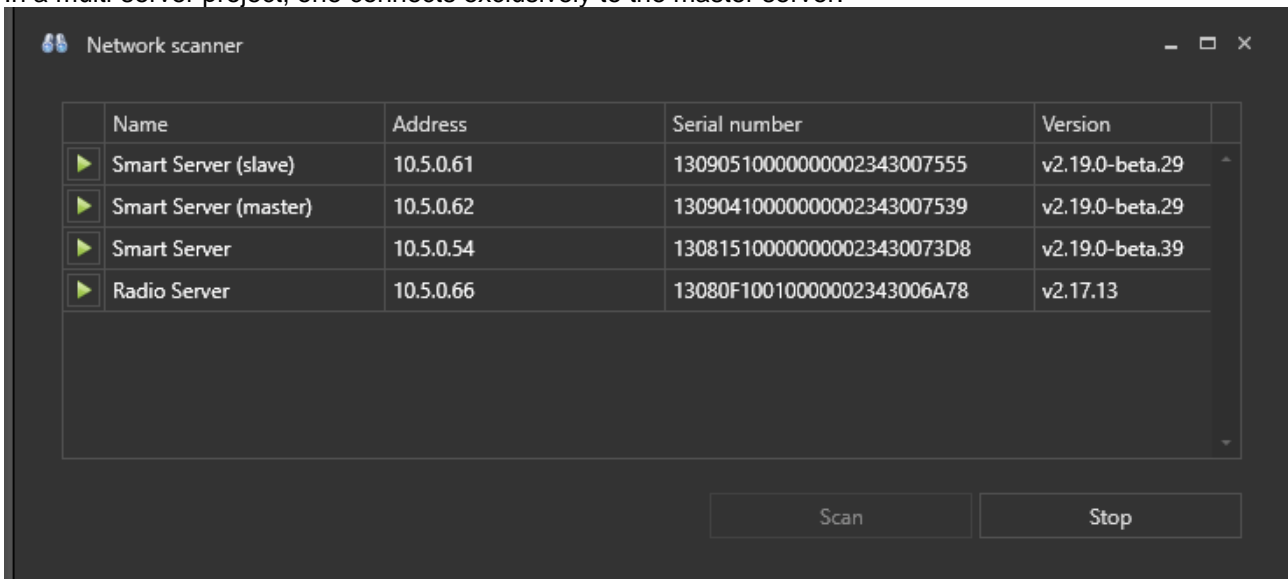


If the server has been assigned, it is displayed as a slave and is given the colour turquoise in the project tree.



### 3.11.2 Download Project to Server and Firmware update

In a multi-server project, one connects exclusively to the master server.



If one is connected to the master server, the entire project file is loaded onto the master server. The master server distributes the programming to the slave servers.

In the case of a firmware update, the update is only carried out on the master server. The master server then distributes the new firmware to the slave servers.

### 3.11.3 Multiserver programming

Functions, inputs, outputs and virtual variables can be used by all servers as desired throughout the project.

E.G.:

Analogue inputs from Server1 can be used in Server3.

The alarm system function block has access to all servers.

#### 3.11.3.1 Add Rooms

In order to use rooms in a slave server, they must be created in the master server.

#### 3.11.3.2 Copy slave server

Slave servers can be copied. With a right click on a slave server, the function "Create copy" can be selected. There you can specify how often the server should be copied.

If several slave servers are the same, it is advisable to first finish programming a slave server and then copy it.

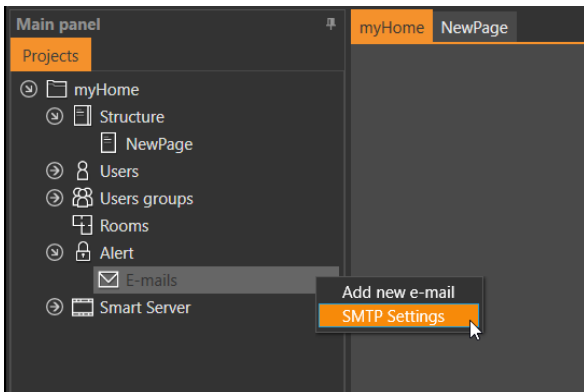
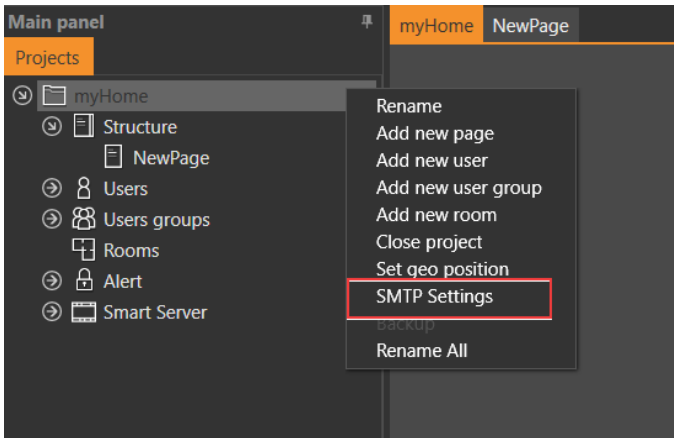
### 3.11.4 Cloud connection

Only the master server has cloud access. The slave servers can be accessed via the cloud from the master server. If the user of slave server 1 is not allowed to access slave server 2, this must be regulated via the user rights.

## 4 E-Mail Configuration

### 4.1 SMTP Settings

With a right mouse click on the project name or E-Mail under Alarm, access the “SMTP” settings.



If SSL is disabled, but the SMTP server support the Start TLS extension, TLS is also used (connection is switched to encoded).

The Standard-Start-TLS-Connection is 557

Standard-SSL/TLS-Port is 465

If Start-TLS should be used:

Port: 587

SSL not activated

For SSL/TLS

Port: 465

SSL activated

Without SSL

Port: 25

SSL not activated

The following example shows the settings for a Google (Gmail) account.

E-Mail: The address of the sender is entered here

Server: For Gmail, smtp.gmail.com (servers of other providers can be found out on the Internet)

Port: for SSL 465

SSL: activated

User: Username of the E-Mail account, matching the sender address.

Password: E-Mail Password ( for a Gmail account you have to login with App passwords).

See link: <https://support.google.com/accounts/answer/185833?hl=de#> )

**SMTP Settings** [X]

E-mail: user@googlemail.com

Server: ✘ smtp.gmail.com

Port: 465

SSL Enabled:

User: user@googlemail.com

Password: ●●●●●●●●

Save Cancel

Alternative settings with StartTLS  
Port: for TLS 587

**SMTP Settings** [X]

E-mail: user@googlemail.com

Server: ✘ smtp.gmail.com

Port: 465

SSL Enabled:

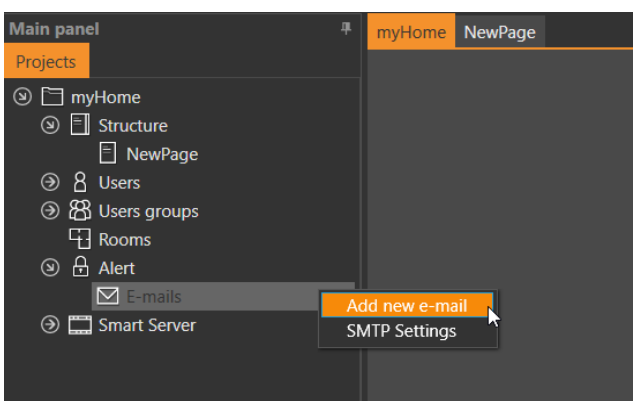
User: user@googlemail.com

Password: ●●●●●●●●

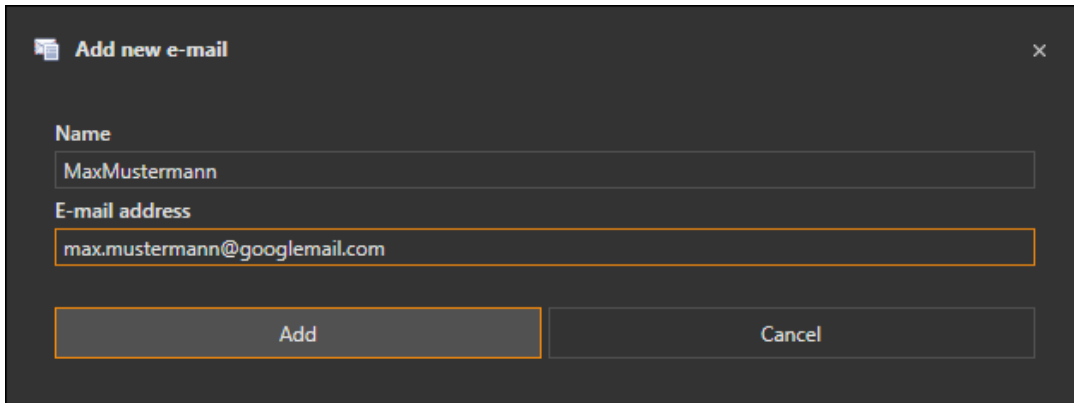
Save Cancel

## 4.2 Set up E-Mail receiver

With a right mouse click on E-Mail under Alarms, select "Add new E-Mail".

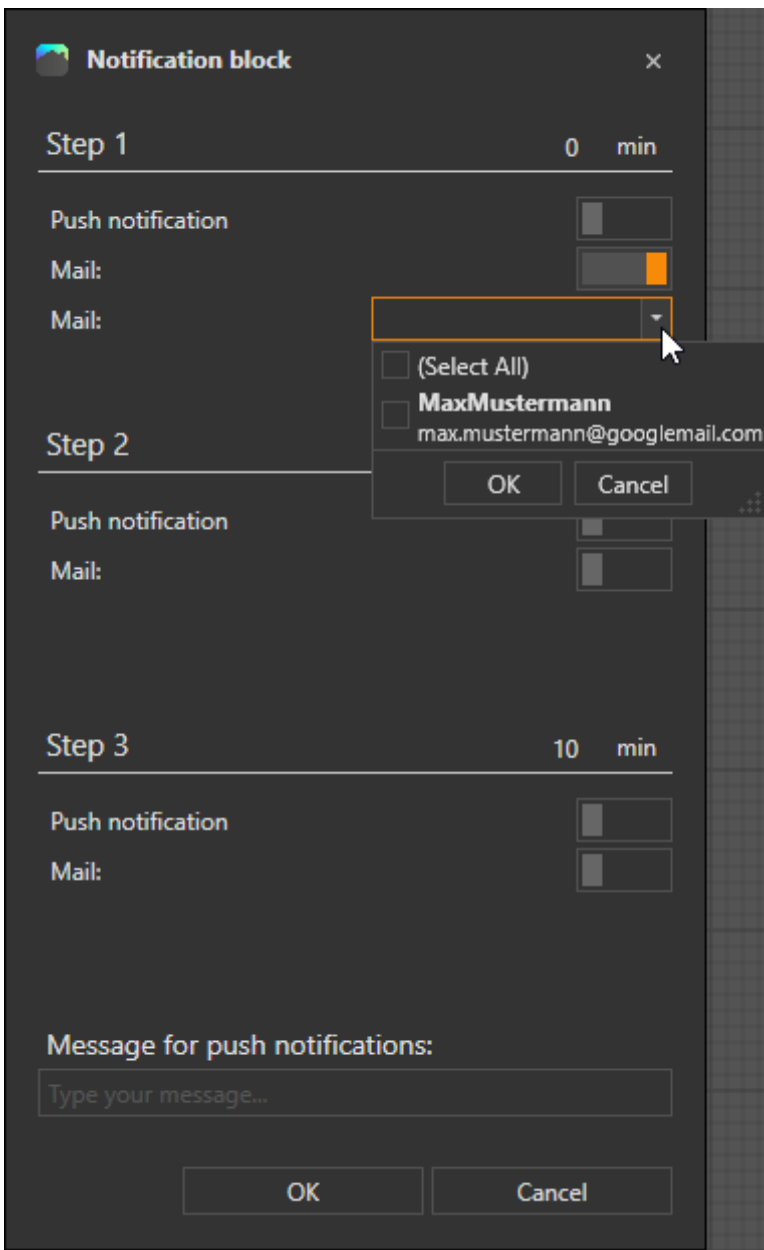


Enter name and E-Mail address of the receivers.



The screenshot shows a dark-themed dialog box titled "Add new e-mail" with a close button (X) in the top right corner. It contains two text input fields: "Name" with the value "MaxMustermann" and "E-mail address" with the value "max.mustermann@googlemail.com". At the bottom, there are two buttons: "Add" and "Cancel".

Now this user can be selected in the different function blocks to receive E-Mails.



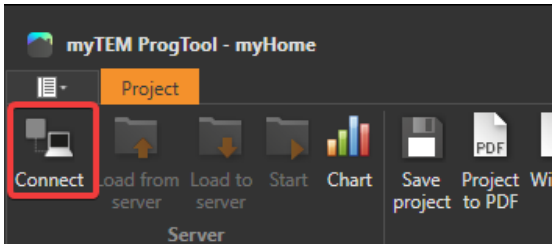
The screenshot shows a dark-themed "Notification block" dialog box with a close button (X) in the top right corner. It is divided into three steps:

- Step 1:** Duration is "0 min". It has a "Push notification" toggle (disabled) and a "Mail:" toggle (enabled). A "Mail:" dropdown menu is open, showing a list with a "(Select All)" option and a checked option for "MaxMustermann" with email "max.mustermann@googlemail.com".
- Step 2:** It has a "Push notification" toggle (disabled) and a "Mail:" toggle (disabled).
- Step 3:** Duration is "10 min". It has a "Push notification" toggle (disabled) and a "Mail:" toggle (disabled).

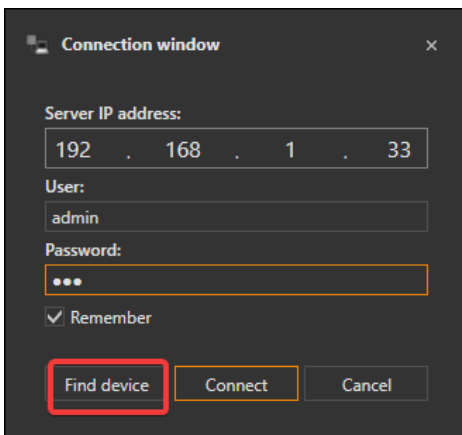
At the bottom, there is a text area for "Message for push notifications:" with the placeholder "Type your message...". At the very bottom are "OK" and "Cancel" buttons.

## 5 Connect to Server

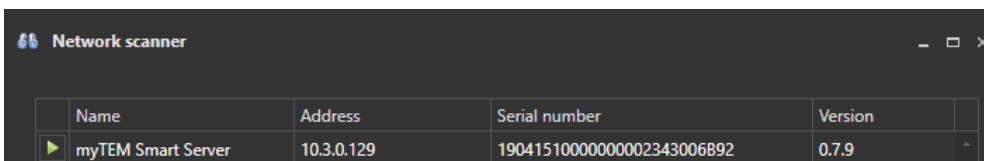
To connect to a server, click on the "Connect" menu.



A new window opens, where connection settings can be entered. If you do not know the IP address, you can search for the device by clicking on the "Find device" button in the network. There are three ways to connect to the server. With the IP address (e.g. 192.168.1.40), with the hostnames serialnumber.local (e.g. 130814100100000234300738d.local) or mytem.local. If several servers hang on the same network, the hostnames are incremented with mytem1.local, mytem2.local, and so on.



A list of all available devices is displayed. By clicking on the green arrow the device can be selected. This feature is only available in the same network link and not over multiple routed IP ranges.

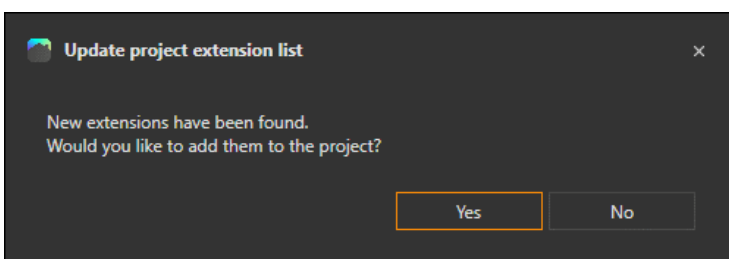


After clicking on "Connect" a connection is made. If the user name or password are incorrect, an error message will be displayed. If the connection was successful, the window will close automatically.

Standard user is 'admin'

Standard password is '123'

If devices already connected to the system, you will be asked if they should be added to the project. See Description in the chapter 3.

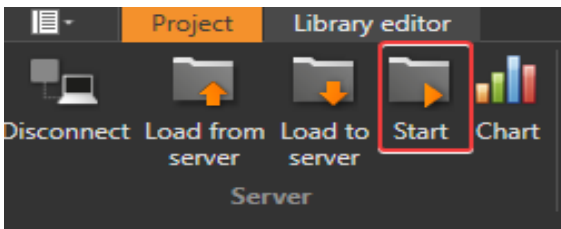


The current connection status can be read in the status bar.

## 6 Real-time view

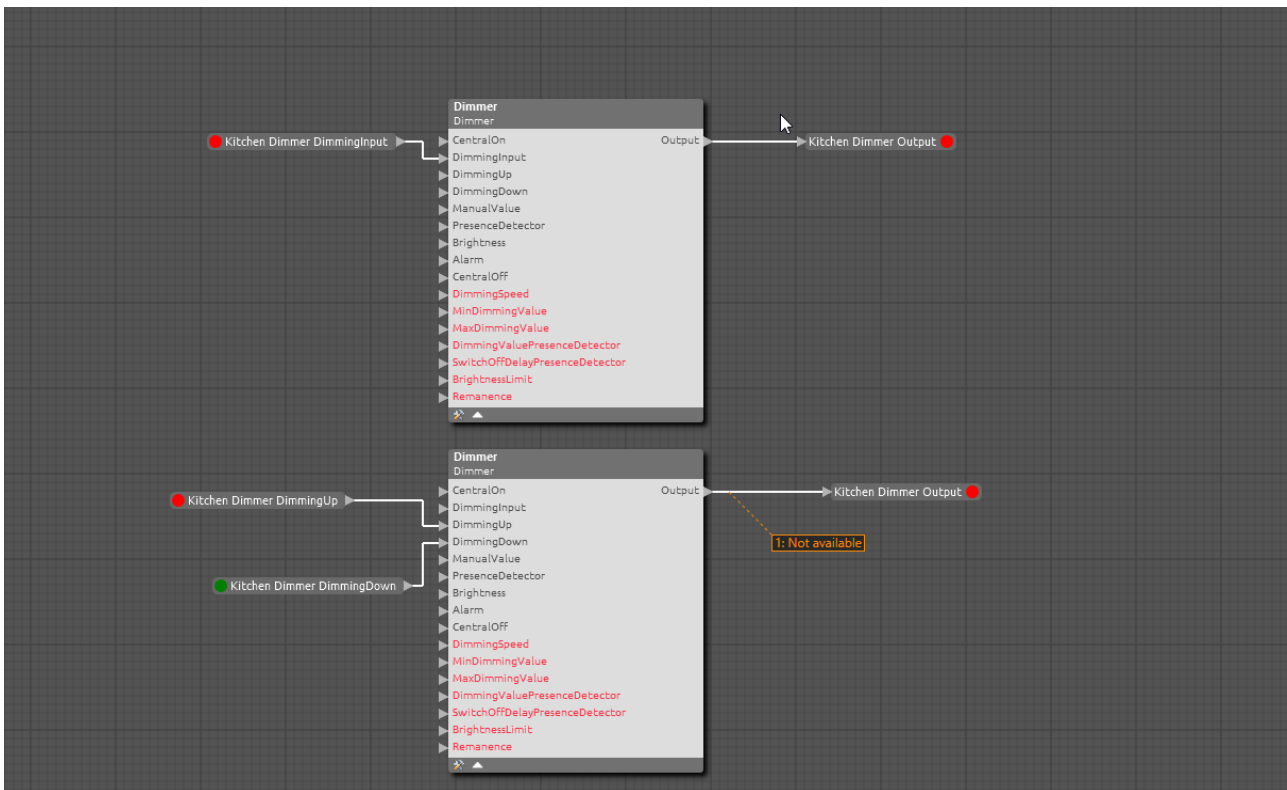
### 6.1 Start and stop real-time view

When the connection to the server is active the real-time view can be started in the menu bar. Drawing pages cannot be edited during the real-time view.



If the real-time view is running and the connection to the server is active, the values are displayed for all inputs and outputs. The displayed values are always those which are reported back by the devices.

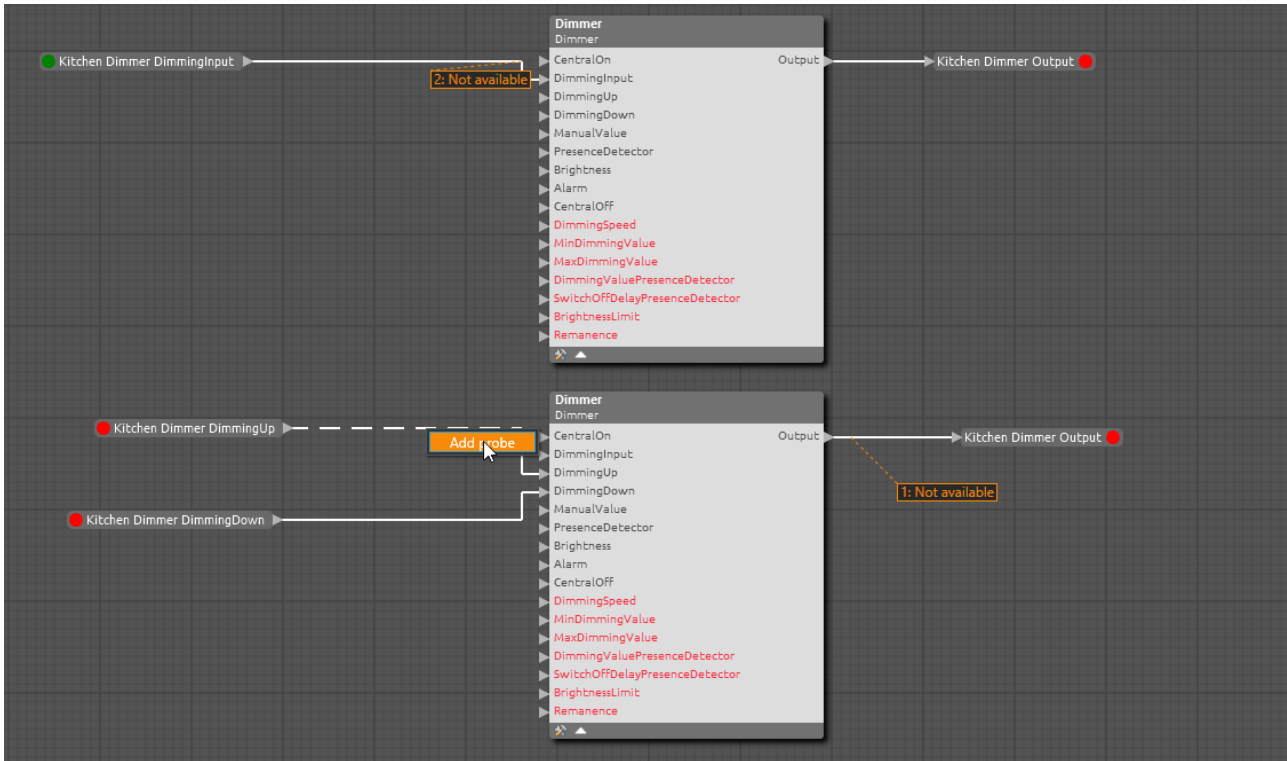
If you want to see the values sent to the devices, a measuring point (see chapter 5.2) can be added to the line by using the right mouse button.



### 6.2 Real-time view measuring Points

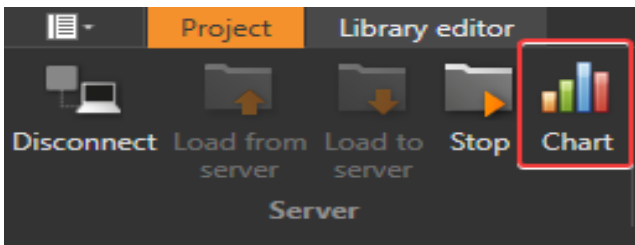
With a right mouse click on the connecting lines, measuring points can be set to display values between program blocks.





### 6.3 Real-time Charts

If the real-time view is active, values and switching operations can be visualized live using the chart function.



With click on the chart button opens the selection window in which inputs and outputs can be selected and visualized in one or up to four different charts. After selecting desired inputs and outputs, press the OK button to continue.

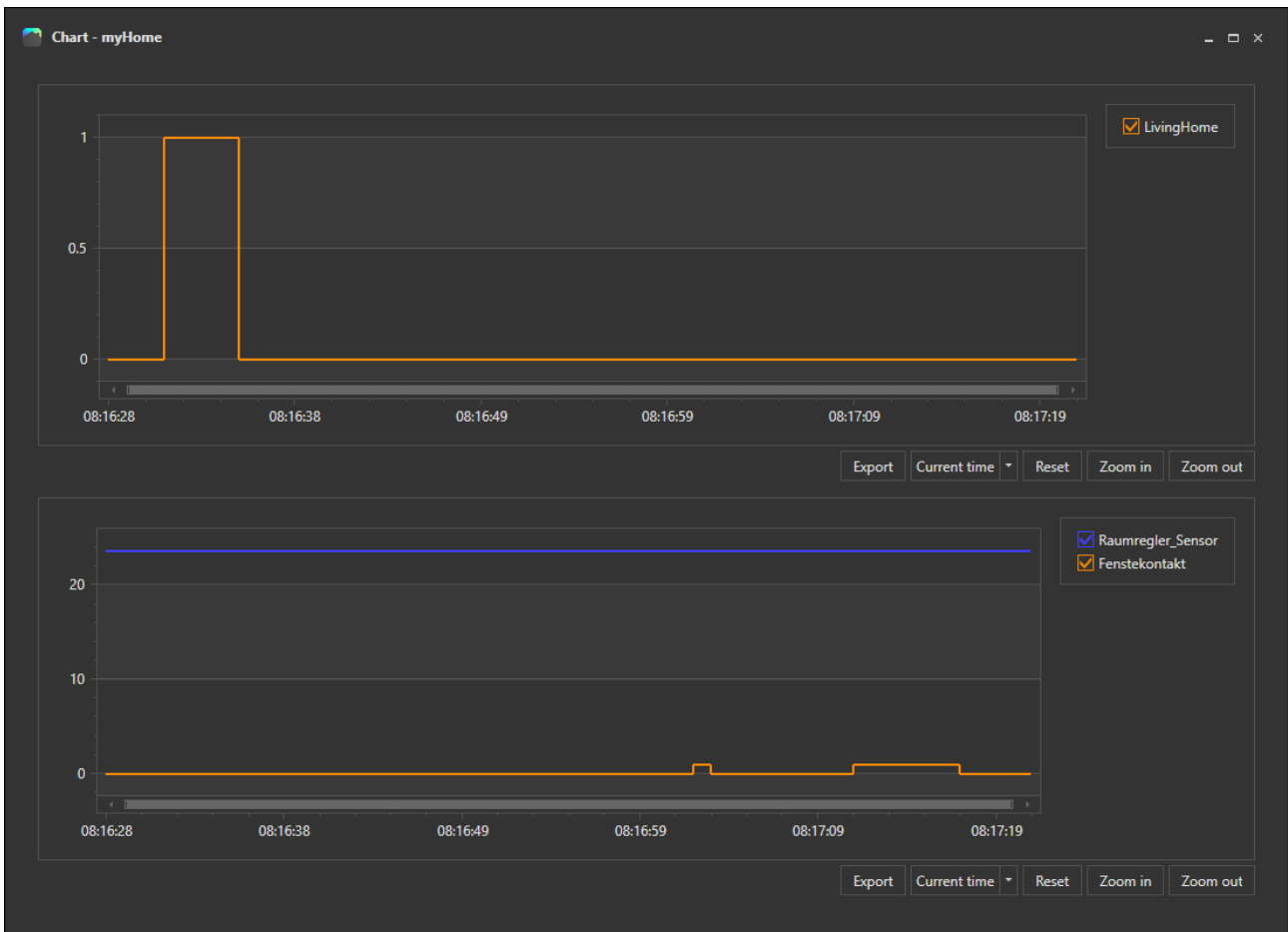
Chart - myHome

Chart 1	Chart 2	Chart 3	Chart 4	Name	Category	Room
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LivingHome	Not assigned	Not assigned
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Comm.Home	Not assigned	Not assigned
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wohnzimmer_Licht_Nächste Szene	Not assigned	Not assigned
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fensterkontakt	Not assigned	Not assigned
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Raumregler_Sensor	Not assigned	Not assigned
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Multilevel switch	Not assigned	Not assigned
I	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bad1_Licht_Nächste Szene	Not assigned	Test
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bad1_Licht_Ausgang 1	Temperature sensor	Test
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kitchen Dimmer DimmingInput	Not assigned	Schlafzimmer
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kitchen Dimmer Output	Not assigned	Schlafzimmer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kitchen Dimmer DimmingUp	Not assigned	Wohnzimmer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kitchen Dimmer DimmingDown	Windows and doors	Schlafzimmer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kitchen Dimmer Output	Not assigned	Wohnzimmer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.1 Probe	Probe	Not assigned
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.2 Probe	Probe	Not assigned

Select / unselect all:

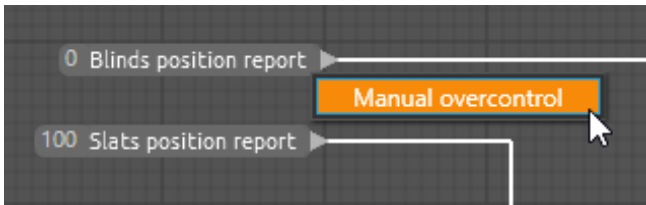
OK Cancel

If you place the mouse pointer on the line, the exact values and the time are displayed.

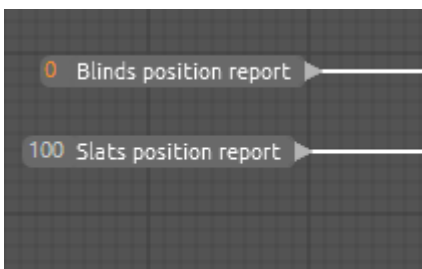


## 6.4 Override inputs/outputs

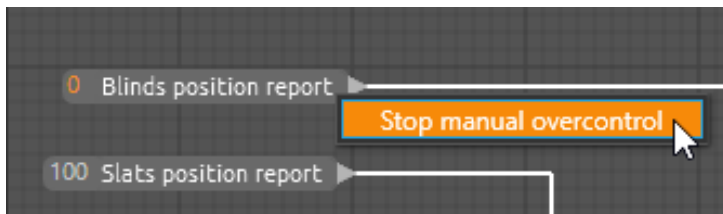
The inputs and outputs can be overridden during the real-time view. Right-clicking on the corresponding input or output and selecting "Manual overcontrol" starts the override.



Inputs/outputs that are in overdrive control are displayed in orange.



Right-clicking on the input/output and selecting "Stop manual overcontrol" stops the override. Stopping the real-time view also stops the manual override.

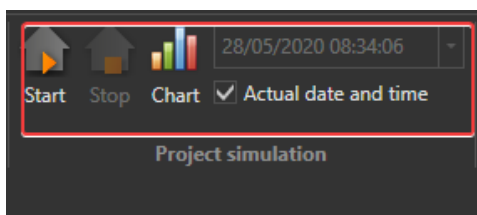


## 7 Simulation

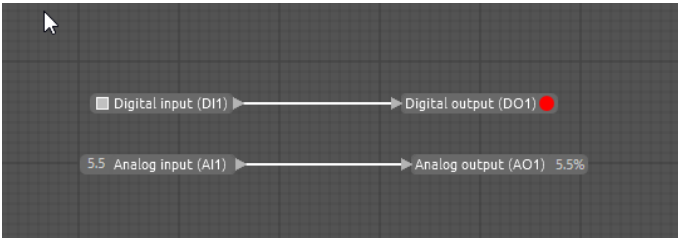
The project can be simulated without connection to a PC or device

### 7.1 Start and stop simulation

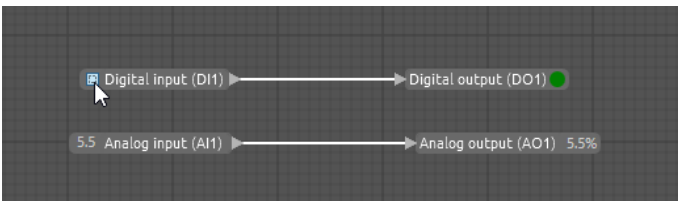
The simulation can be started and stopped at any time via the simulation menu.



When a simulation is running, the values are indicated for all inputs and outputs. During simulation the drawing pages cannot be edited.



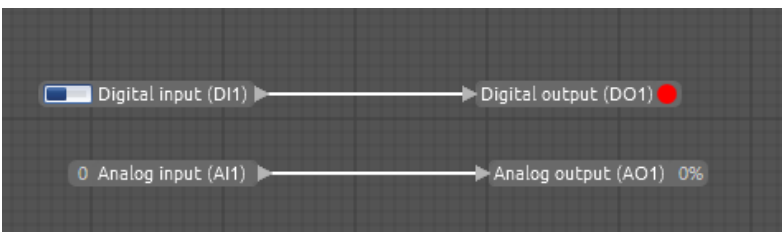
The digital inputs can be selected by clicking on them. Clicked = on, not clicked = off. For digital outputs, the colour red means switched off and the colour green means switched on.



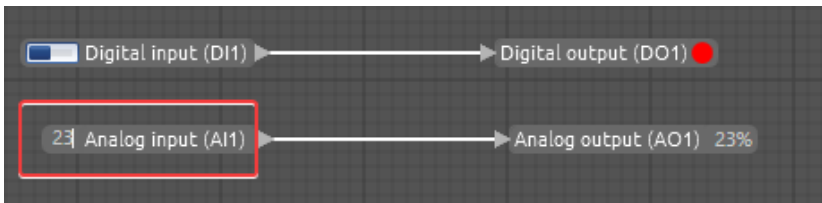
By default, the digital inputs are configured as push buttons. If a switch is to be simulated, it can be selected from the corresponding digital inputs in the properties window.

Common	
Name	Digital input (DI1)
Type for simulation	Button
Default value	Button
Device	Switch
Device name	Smart Server
User interface	
Room	
Category	

After starting the simulation, a switch is displayed which has the state “On” or “Off”.



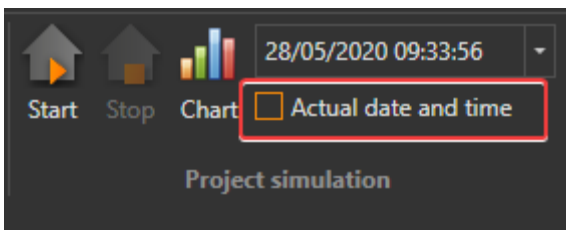
For analogue inputs the value can be set directly by clicking on the input.



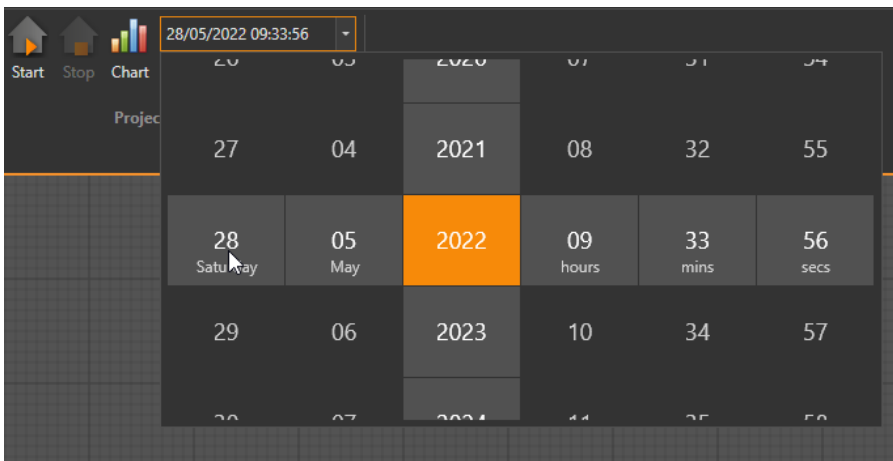
## 7.2 Set simulation time

If you want to test time functions or calendar functions, you can set the simulation time. This way, events in the future can be tested and simulated.

Deactivate the checkbox "Current date and time" in the simulation menu (remove the hook).



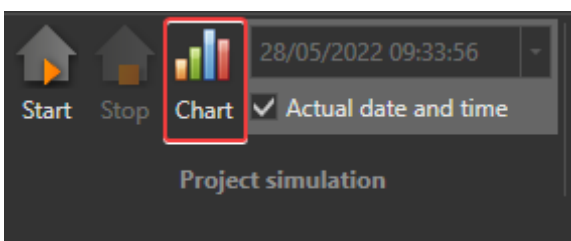
Now date and time can be set via the selection menu.



After starting the simulation the set time is taken over.

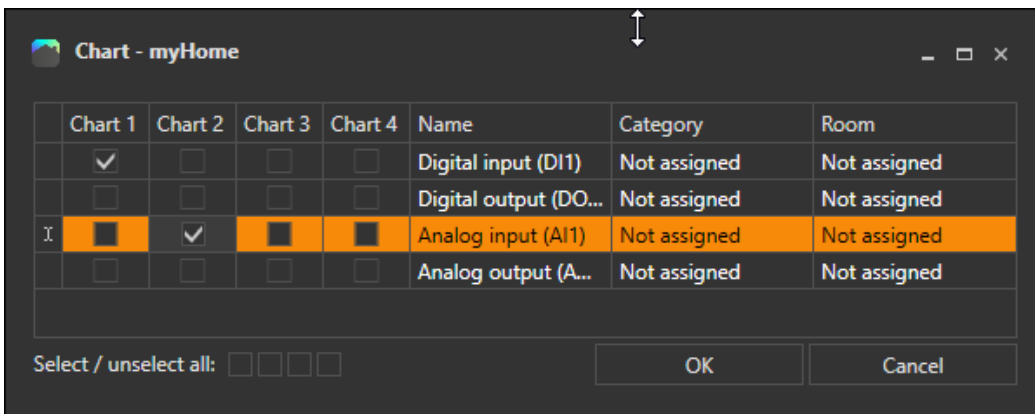
## 7.3 Chart

Using the Chart button, manually set values or switching processes can be displayed and followed visually.

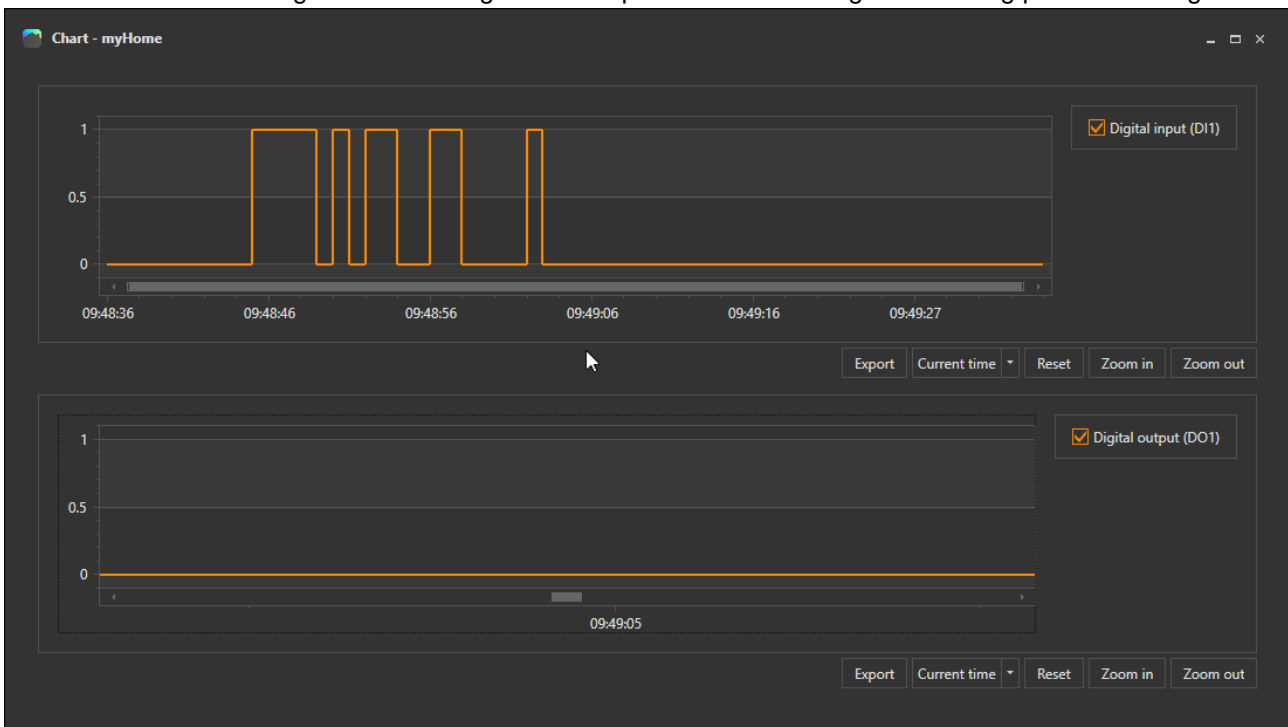


A click on the diagram button opens the selection window in which inputs and outputs can be selected and displayed in one or up to four different diagrams.

Selection of inputs and outputs.



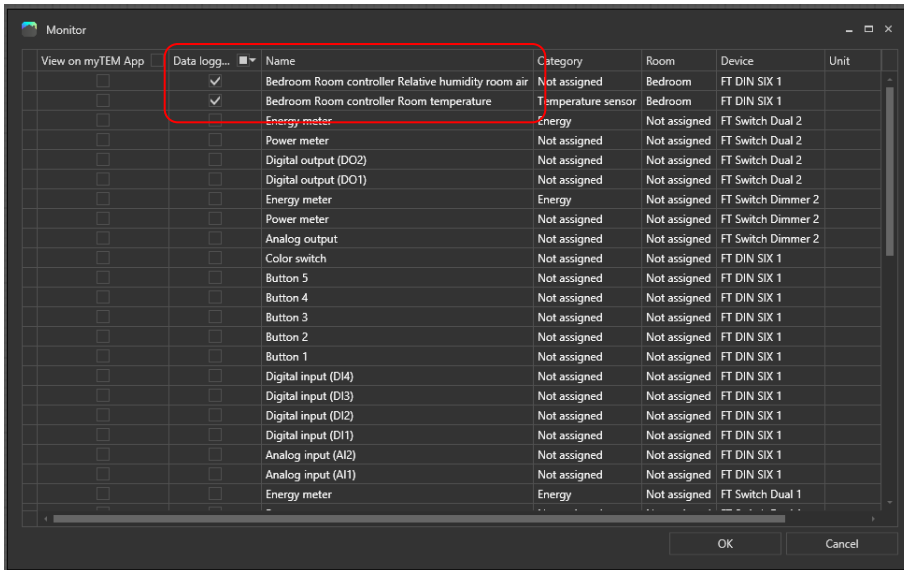
Presentation of an analogue value in diagram 1 and presentation of a digital switching process in diagram 2.



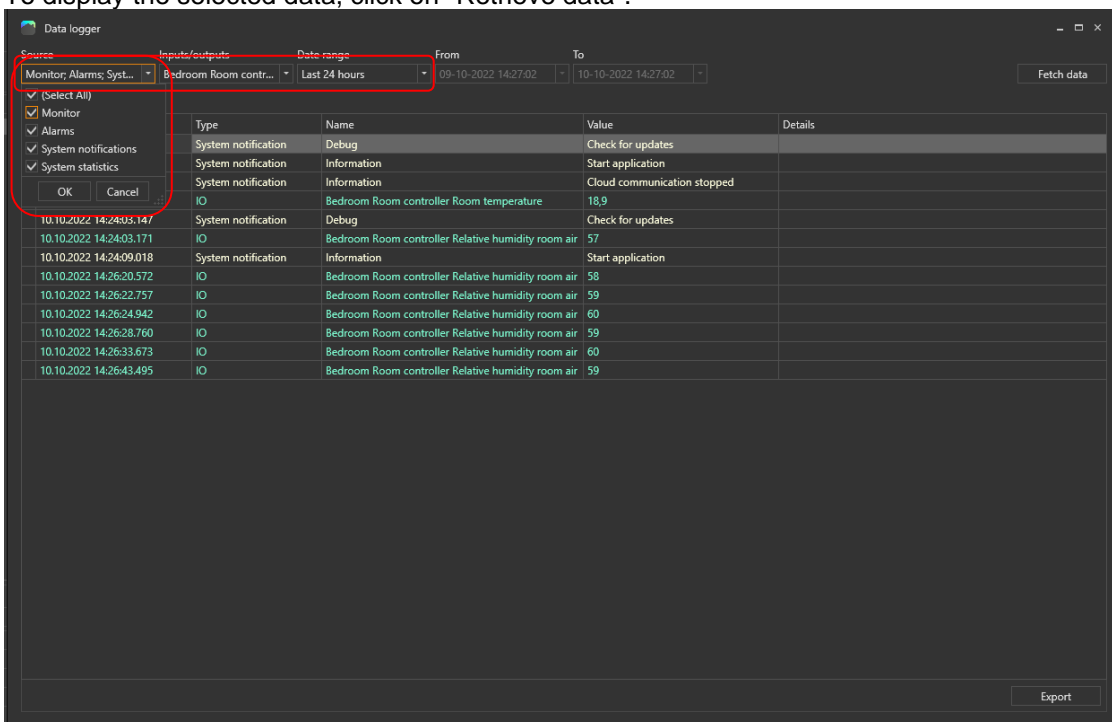
## 8 Data logger

You will find the "Data logger" button under "Server" in the buttons in the upper operating bar. With the help of the data logger, system information and values such as temperature and energy consumption can be read out, exported and graphically displayed.

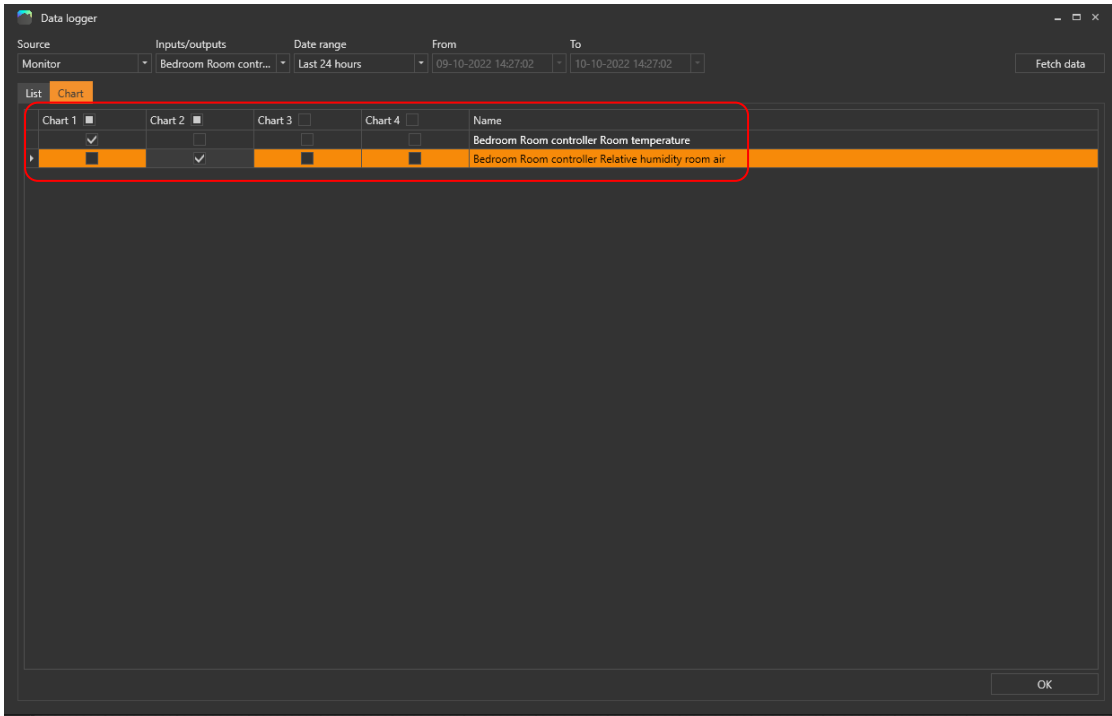
To monitor data points from the project with the data logger, the "Monitor" function block must be inserted in the project. There, the data points that you want to record in the data logger are marked with a tick.



When the data logger is opened, the data to be displayed is selected under "Source". At "Inputs/Outputs", the data points from the "Monitor" function block can be selected and at "Date range", the time period can be set. To display the selected data, click on "Retrieve data".



If you click on "Diagram", data can also be displayed graphically. There, the desired data points are ticked, whereby it can be selected whether all data points are to be displayed in a graph or in individual graphs.



With the "Export" button at the bottom right, the data can be exported as a .csv file.





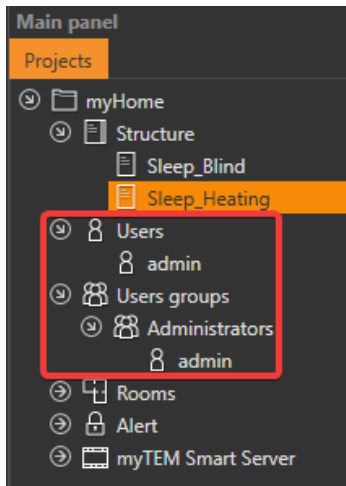
## 9 Mobile App and Web App visualization

Many function blocks added on the drawing pages can be displayed on the phone or with the web app.

### 9.1 Users and User groups

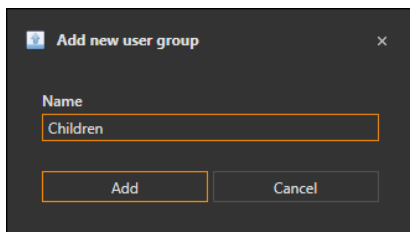
Users are required to secure access from the mobile/web app. Each function can be assigned one or more user groups, which have access to the respective function.

The users and user groups are managed and displayed in the project tree. The user "Admin" cannot be deleted.

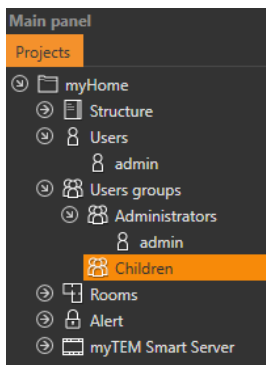


#### 9.1.1 Create user group

Click in the menu "Add new user group". A new window opens.



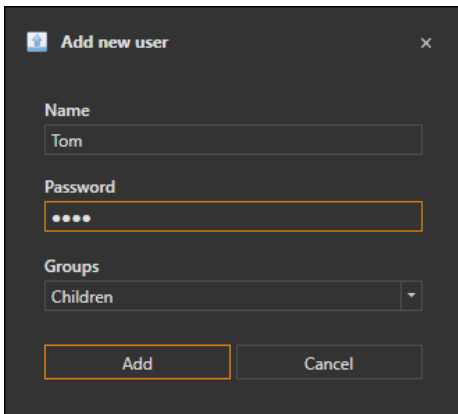
Here the name of the user group can be specified. This can be changed later. After clicking on the "Add" button, the user group is created and added to the project.



Currently no users are assigned to this group..

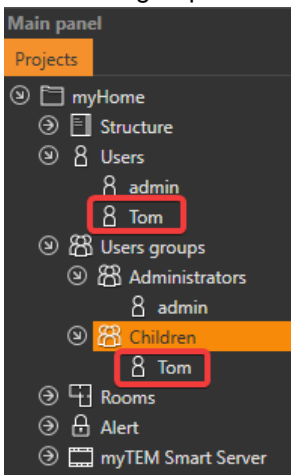
### 9.1.2 Add new user

By clicking “Add new user” in the menu, a new window opens in which the name and password for this user can be entered. The password must be another one than default password **123**. The user can be assigned to one or more user groups



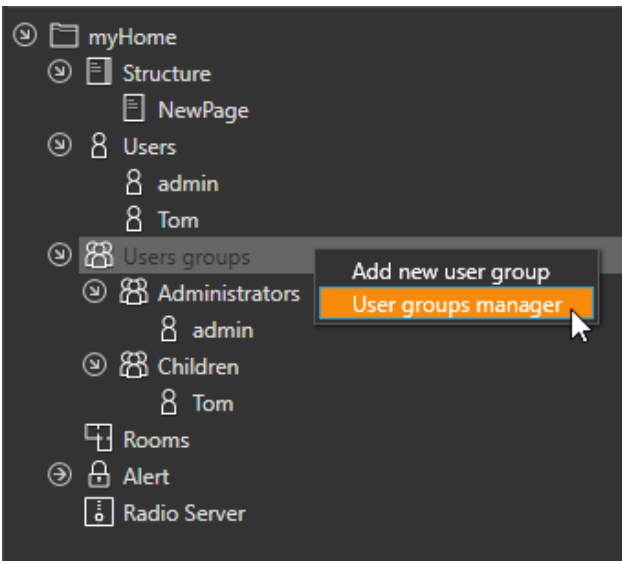
The screenshot shows a dark-themed dialog box titled "Add new user" with a close button (X) in the top right corner. It contains three input fields: "Name" with the text "Tom", "Password" with four dots, and "Groups" with a dropdown menu showing "Children". At the bottom, there are two buttons: "Add" and "Cancel".

After clicking on the "Add" button, the user is added to the project. The new user is now visible in Users and in the user group.



## 9.2 User groups manager

With a right click on User Groups the "User Groups Manager" can be opened.

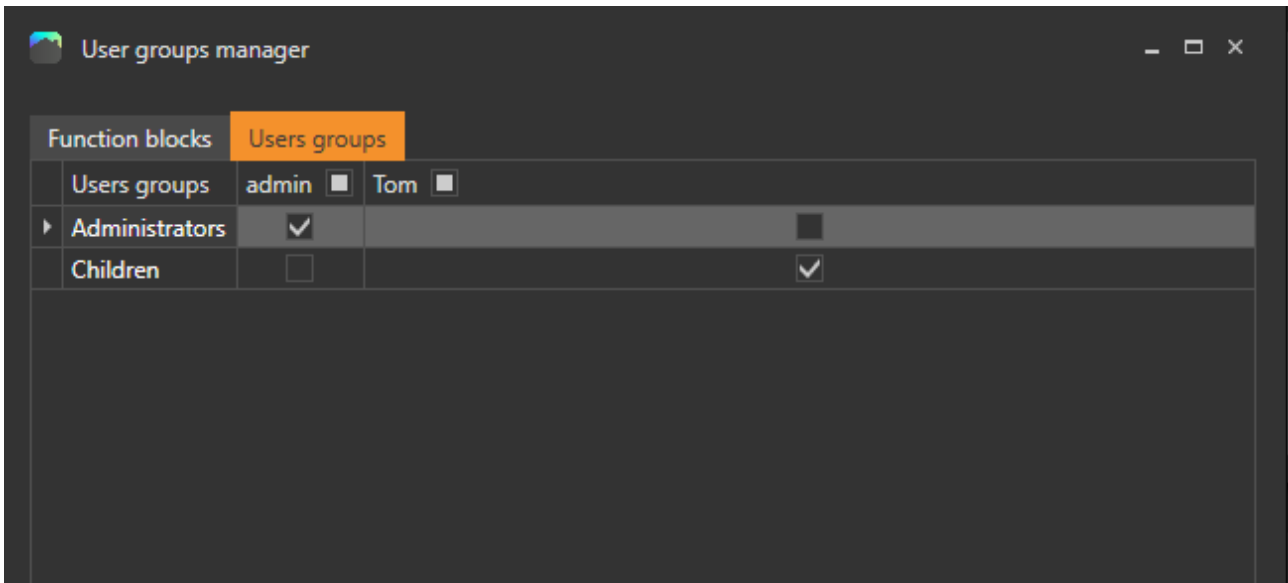


In the function blocks tab, it is possible to assign all function blocks that can be visualized to user groups or also to individual users.

The 'User groups manager' window displays a table with two tabs: 'Function blocks' (selected) and 'Users groups'. The table lists various function blocks and their assignment to user groups.

Name	Object type	Room	Page	admin <input type="checkbox"/>	Tom <input type="checkbox"/>	Administrators <input checked="" type="checkbox"/>	Children <input type="checkbox"/>
Room controller	Room controller	Bedroom	Bedroom	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dimmer	Dimmer	Bedroom	Bedroom	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dimmer	Dimmer	Living room	Living_room	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Room controller	Room controller	Living room	Living_room	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Room controller	Room controller	Kitchen	Kitchen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Light controller	Light controller	Kitchen	Kitchen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blinds	Blinds	Kitchen	Kitchen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

In the user groups tab one can create new users and user groups and assign users to user groups.

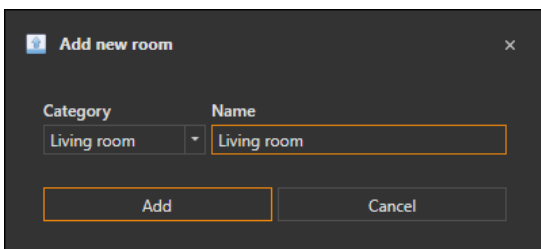


## 9.3 Rooms

Rooms are needed to sort the functions in the drawing pages and to define where this function is used. On the mobile app they are sorted accordingly  
Rooms are managed in the project tree.

### 9.3.1 Create new room

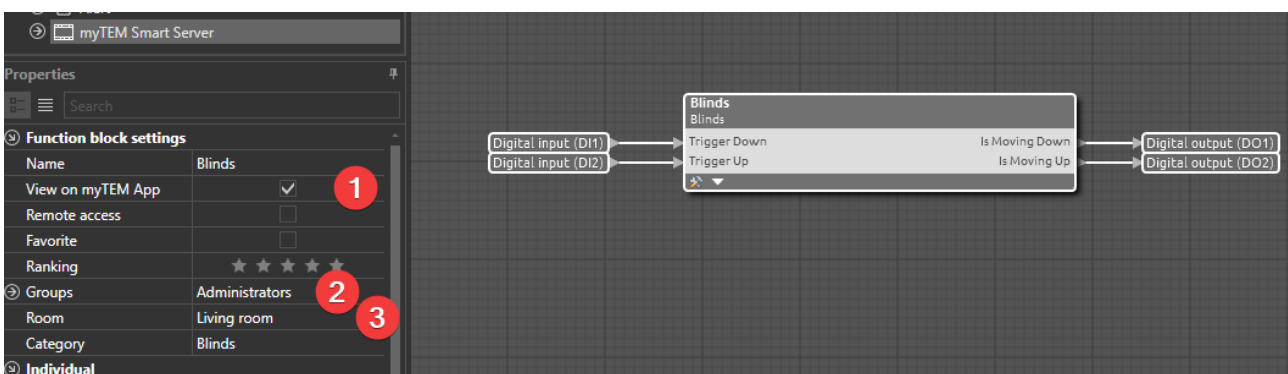
Click on the menu "Add new room". A new window is opening.



Any name can be selected. You can also select any category. This is used for the view in the mobile app  
After adding, the room is displayed in the project tree.

## 9.4 Visualize / display a function

After clicking on the function block in the drawing page, settings can be made in the properties window for the display in the mobile app.



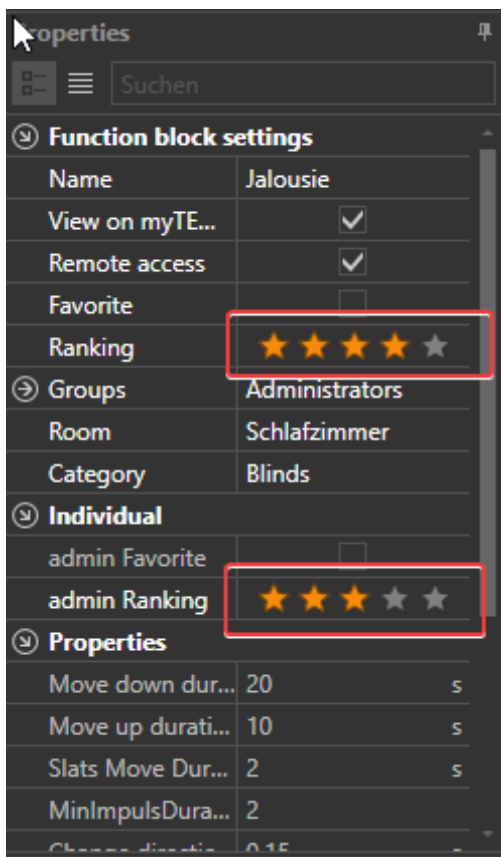
1. Activate the view in the app
2. Show function also at remote access, otherwise the function is only shown if the mobile phone is in the same LAN
3. Assign user group, which will get access to the function
4. Assign the room in which the function is used

Optionally, ranking settings can also be made, but these can also be set individually for each user later via the mobile app.

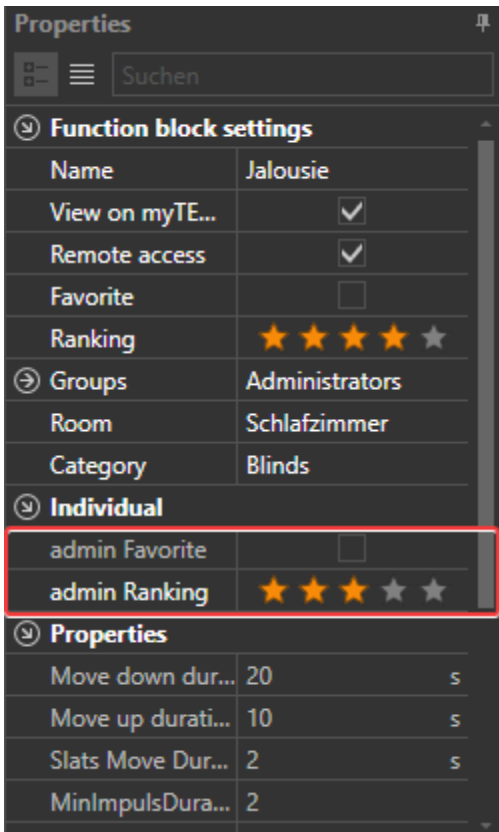
## 9.5 Favorites

Function blocks can be displayed in the myTEM App under Favorites. You can set this in the properties as soon as a function block is selected. You can also set the rating, even more stars the higher up the function block is displayed in the myTEM App under Favorites.

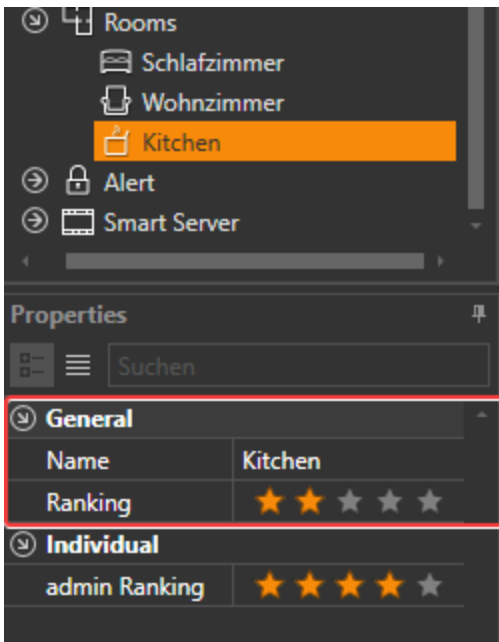
Default settings can be set for Favorite and Rating. Each new user added to this function block will automatically receive these favorite settings.



With "Individual" the desired favorite settings can be for each user.



The ratings for the rooms are used to determine the order in which the rooms are displayed in the myTEM App. To set this, you must select the corresponding room. General settings of the rating can be set for each room. Every new user that is added automatically receives this rating.



An individual room rating can be set for each user.

Function block settings	
Name	Dimmer
View on myTE...	<input checked="" type="checkbox"/>
Remote access	<input checked="" type="checkbox"/>
Favorite	<input type="checkbox"/>
Ranking	★ ★ ★ ★ ★
Groups	Administrators
Room	
Category	Lighting
<b>Individual</b>	
admin Favorite	<input type="checkbox"/>
admin Ranking	★ ★ ★ ★ ★
Kelly Favorite	<input type="checkbox"/>
Kelly Ranking	★ ★ ★ ★ ★
<b>Properties</b>	
DimmingSpeed	19
MinDimmingVa...	0

## 9.6 Web app login

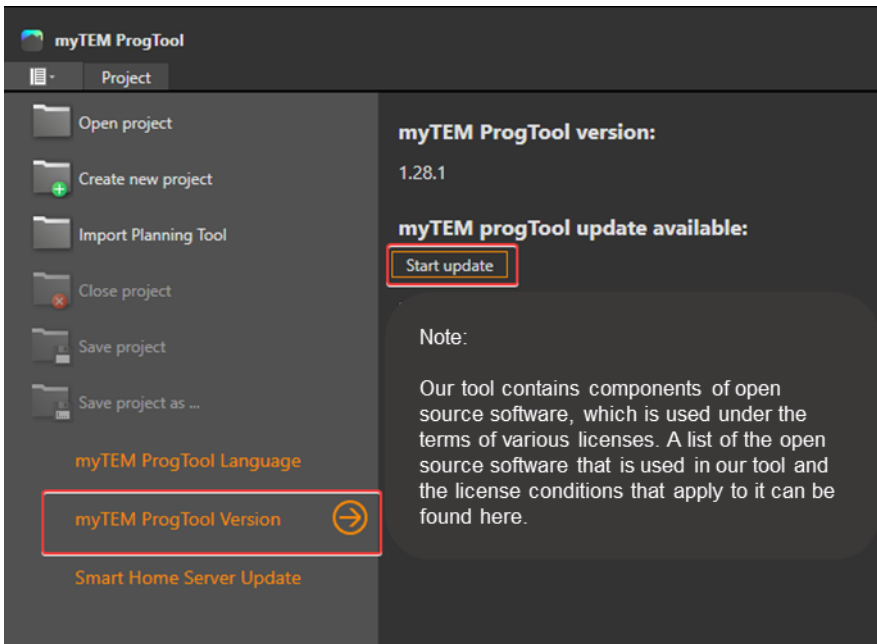
The web app can be opened with an ordinary web browser. There are three ways to connect to the web app. With the IP address (e.g. 192.168.1.40), with the hostnames serialnumber.local (e.g. 1308141000000234300738d.local) or mytem.local. If several servers hang on the same network, the hostnames are incremented with mytem1.local, mytem2.local, and so on.

## 10 Update

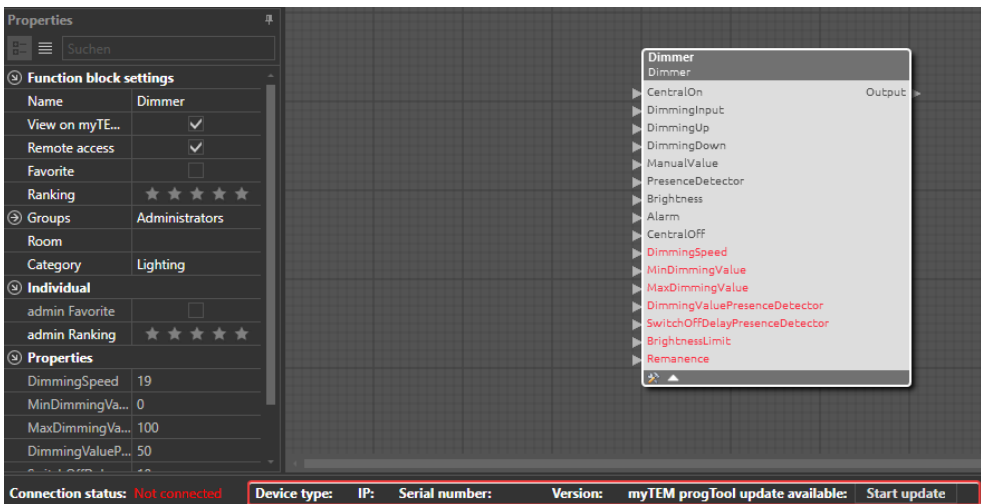
### 10.1 ProgTool update

The ProgTool version can be found under "myTEM ProgTool Version"

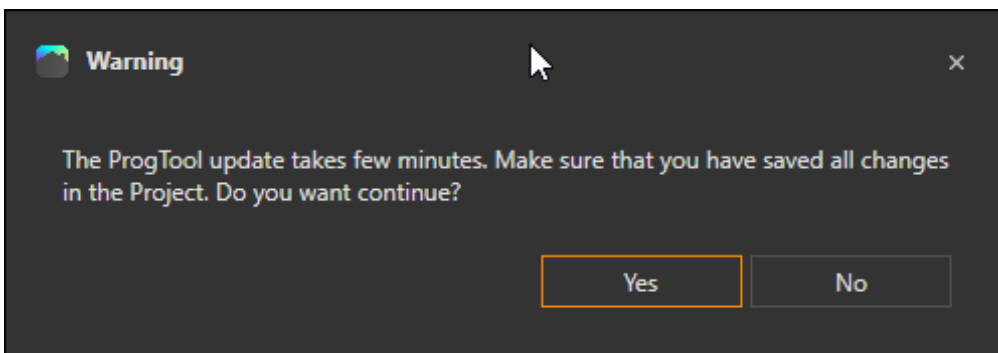
1. The current ProgTool version
2. If a new version is available, this will be listed here.



If a new version is available, this is reflected in the status bar.

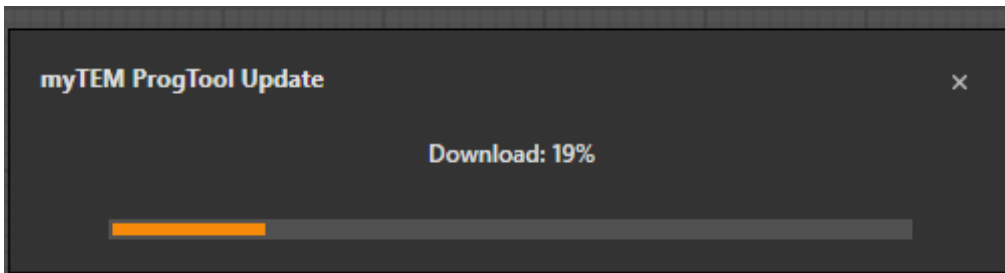


By clicking on “Update” in the status bar or on “Update” on the page “myTEM ProgToll Version” a warning is displayed.



If you cclick on “Yes”, the new version is starts downloaded from the Internet. Afterwards the ProgTool is closed and the installer is started. The new ProgTool can than be installed with the installer. Follow the instructions on the screen.





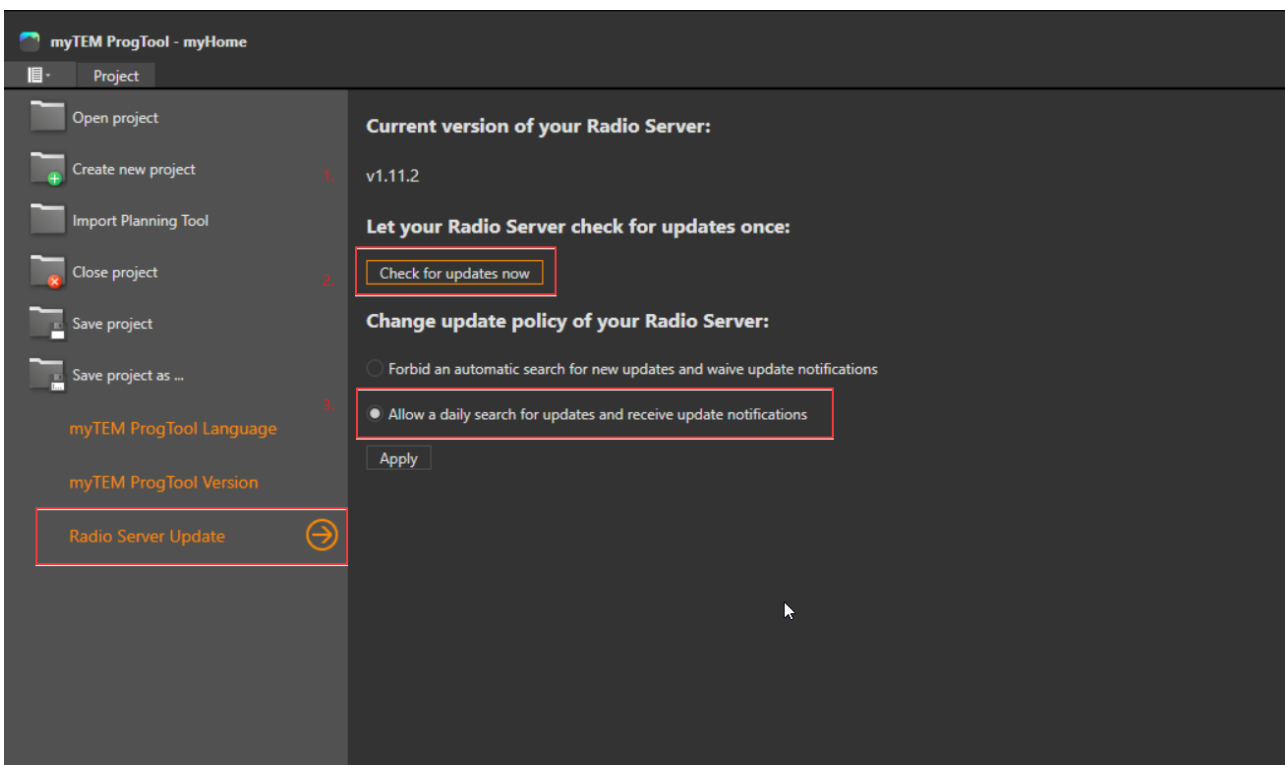
## 10.2 Server update

During a server update, the firmware on the Smart Home Server is updated, and the project on the server is also updated automatically.

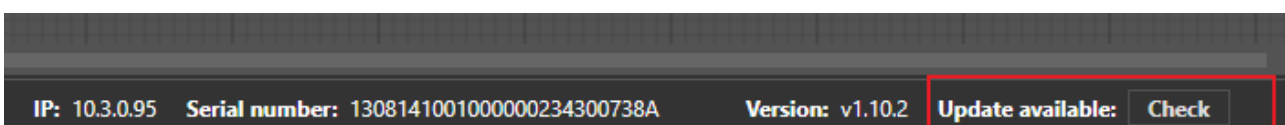
### 10.2.1 Server Firmware update over the Internet

The settings for the firmware updates can be found under "Smart Server Update".

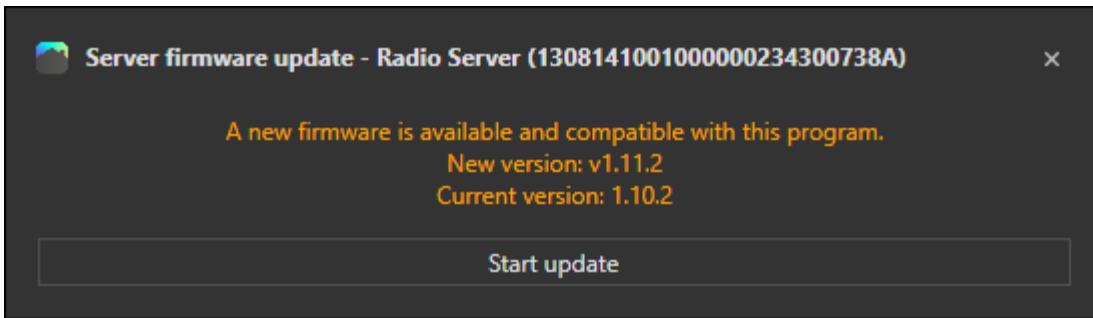
1. The current Smart Home Server version is listed
2. Over the button "Check for Updates" you can check if a new firmware version is available.
3. If the automatic search is activated, new updates are checked daily and you will be notified via the myTEM App and the myTEM ProgTool when a new version is available



If a new version is available, this is indicated in the status bar.

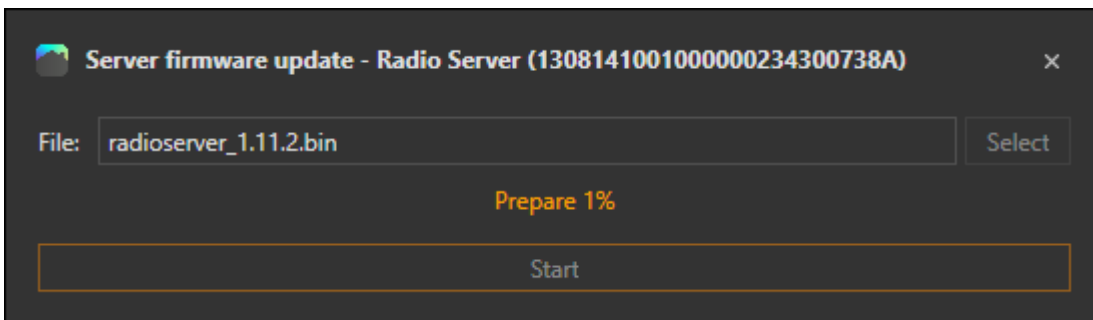


By clicking "Check" in the status bar or "Check for Updates" on the "Smart Server Update" page shows which version is currently on the server and which can be updated.



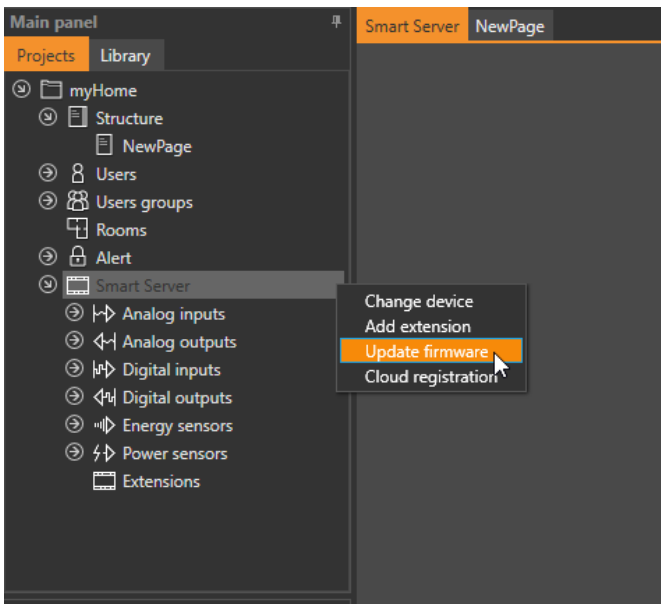
After clicking on “Start update” the Smart Home Server is updated. This can take several minutes.

**Attention: The Micro SD card must be inserted!**

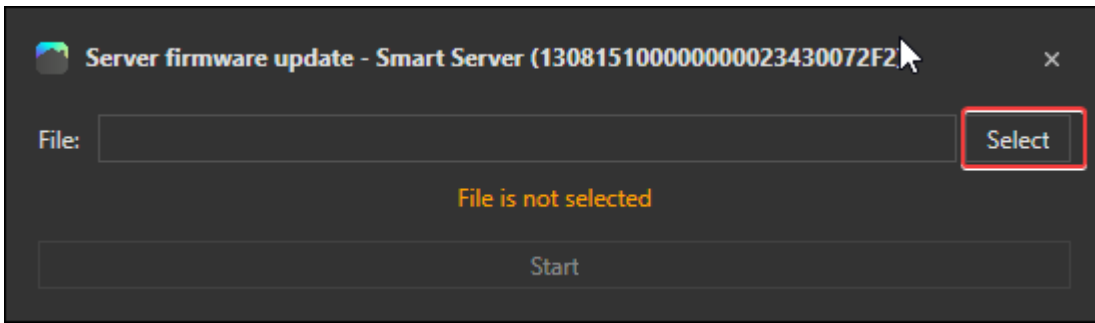


### 10.2.2 Server Firmware update with File

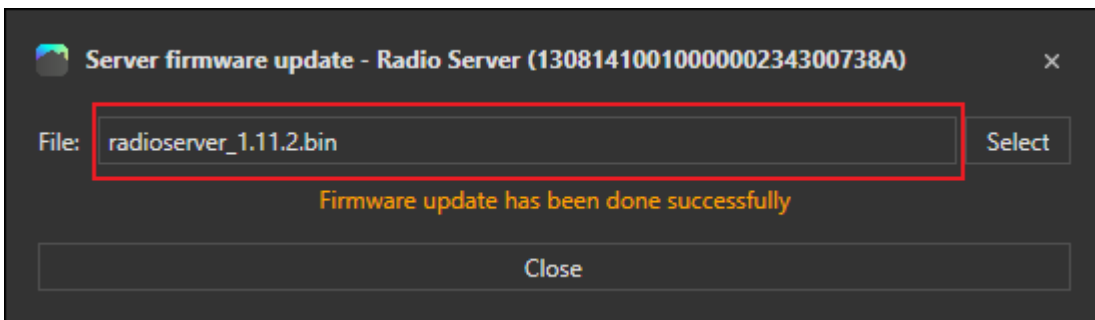
The Radio Smart Sever and the Smart Sever can be updated by right clicking on the server and selecting “Firmware Update”.



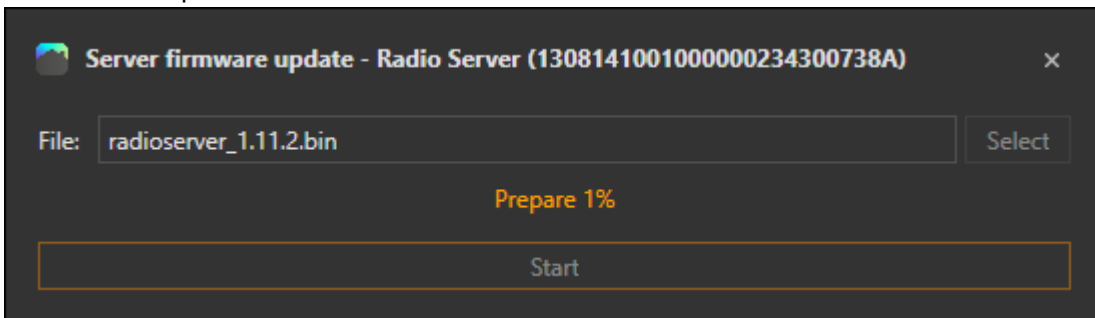
By clicking on the “Select” the update file can be selected.



Afterwards you can start the firmware update by clicking on “Start”.  
**Attention: The Micro SD card must be inserted!**



The firmware update can take a few minutes.



After the firmware update finished the window can be closed.

## 11 Appendix

### 11.1 Associations

Group ID	Profile Name / Lifeline / Lifeline	Max. no of units	Command Class	Description
1	General: Lifeline / Lifeline	1	Device Reset Locally Notification	When Button is pressed 10 times or either “Learn mode” or “Reset network” is clicked in myTem ProgTool the notification is sent.

### 11.2 Z-Wave Supported Command Classes

Command Class (CC)	Version	Required Security Class
Z-Wave Plus Info CC	2	None
Transport Service CC	2	None
CRC16 Encap CC	1	None
Application Status CC	1	None
Security 2 CC	1	None
Security CC	1	None
Inclusion Controller CC	1	None
Powerlevel CC	1	Highest granted Security Class
Manufacturer Specific CC	2	Highest granted Security Class
Version CC	2	Highest granted Security Class
Supervision CC	1	None
Multi Cmd CC	1	None
Association CC	2	Highest granted Security Class
Association Group Information CC	3	Highest granted Security Class
Device Reset Locally CC	1	Highest granted Security Class
Network Management Inclusion CC	3	Highest granted Security Class
Network Management Basic CC	2	Highest granted Security Class
Network Management Proxy CC	2	Highest granted Security Class

### 11.3 Basic Command Handling

The Smart Home server is able to control other devices, which support “Basic Command” by sending Basic SET ON and OFF from the Z-Wave Manager window (See Chapter 3.4.6).

It can also receive “Basic Commands” from other devices on the network, but it does not respond to them.

### 11.4 List of abbreviations

API	Application Programming Interface
DALI	Digital Adressable Lighting Interface
DNS	Domain Name System
DSK	Device Specific Key
FT	FreeTopology
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
IP	Internet Protocol
JSON	Java Script Object Notation
LED	Light Emitting Diode
PDF	Portable Document Format
RGBW	Red Green Blue Warm-white
SD	Secure Digital
SMTP	Simple Mail Transfer Protocol
SSL	Secure Sockets Layer
TLS	Transport Layer Security
URL	Uniform Resource Locator

VPN	Virtual Privat Network
MQTT	Message Queuing Telemetry Transport
QoS	Quality of Service