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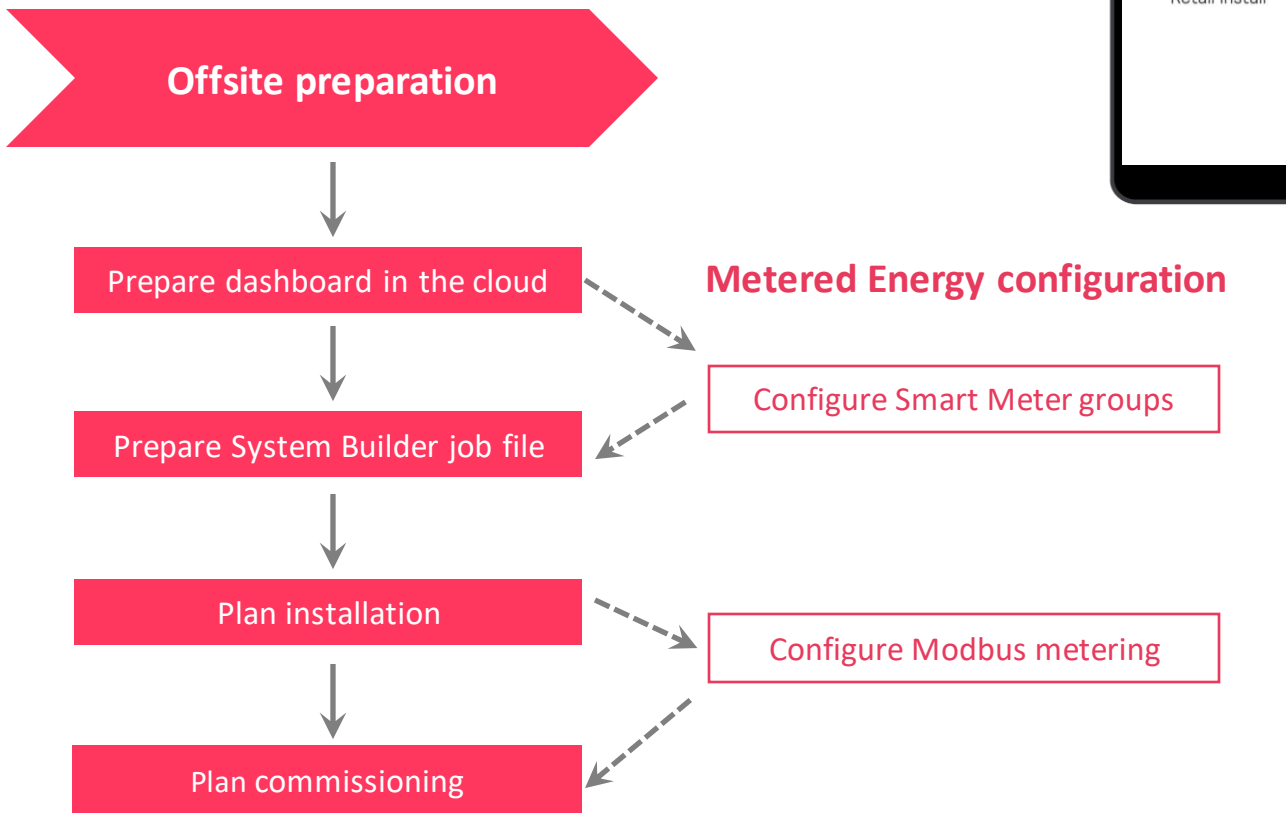
Commissioning: offsite preparation

Architecture FLX - Multisite

Learning objectives | Multisite offsite preparation

At the end of this lesson, you should be able to:

- Describe the steps required for the off-site commissioning process.
- Be familiarized with the tools needed for online commissioning.



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Multisite offsite preparation | Naming convention alignment

It is extremely important to keep consistent naming convention, during entire preparation process.

The naming convention covers the Areas, Child Areas, Scenes and Logical Channels.

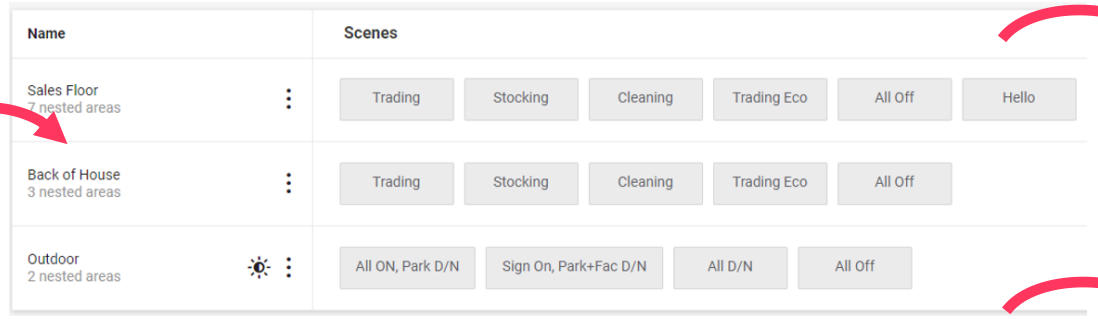
The convention is first aligned with the customer by means of the ***Project Template*** form, and defined per customer, not per store or format.

Then, the naming is being used during preparation of the Dashboard in the cloud, and later-on mirrored to the System Builder configuration.

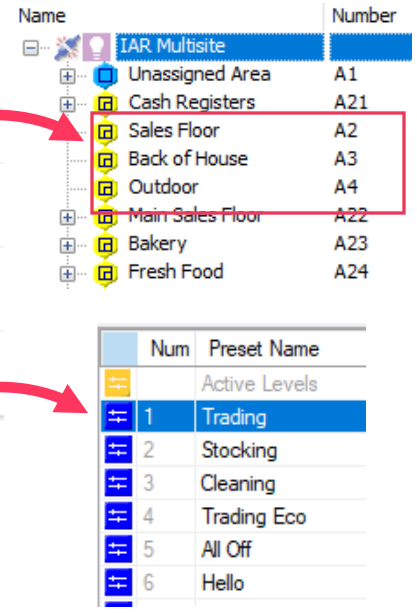
Project Template form

Area 1	Area 1 scenes	
Sales Floor #2	Trading #1	All Off #5
Define Child areas and Logical channels on page 7	Stocking #2	Hello #6
	Cleaning #3	
	Trading Eco #4	
Area 2	Area 2 scenes	
Back of House #3	Trading #1	All Off #5
Define Child areas and Logical channels on page 11	Stocking #2	
	Cleaning #3	
	Trading Eco #4	
Area 3	Area 3 scenes	
Outdoor #4	All ON, Park D/N #1	
Define Child areas and Logical channels on page 13	Sign On, Park+Fac D/N #2	
	All D/N #3	
	All Off #4	

Dashboard – Cloud configuration



System Builder



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Prepare dashboard in the cloud

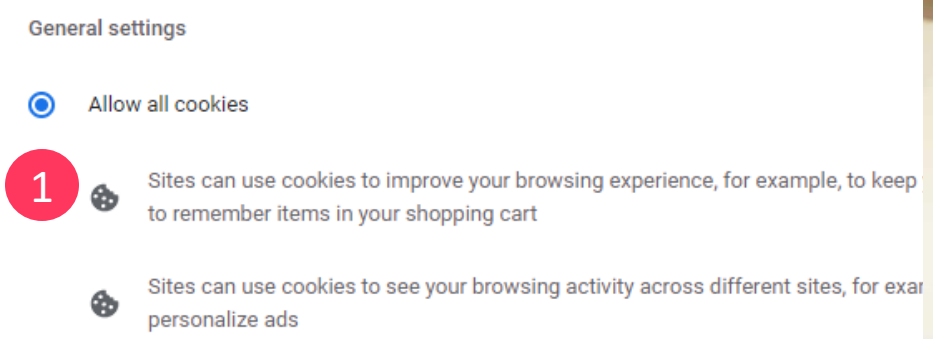
Architecture FLX - Multisite

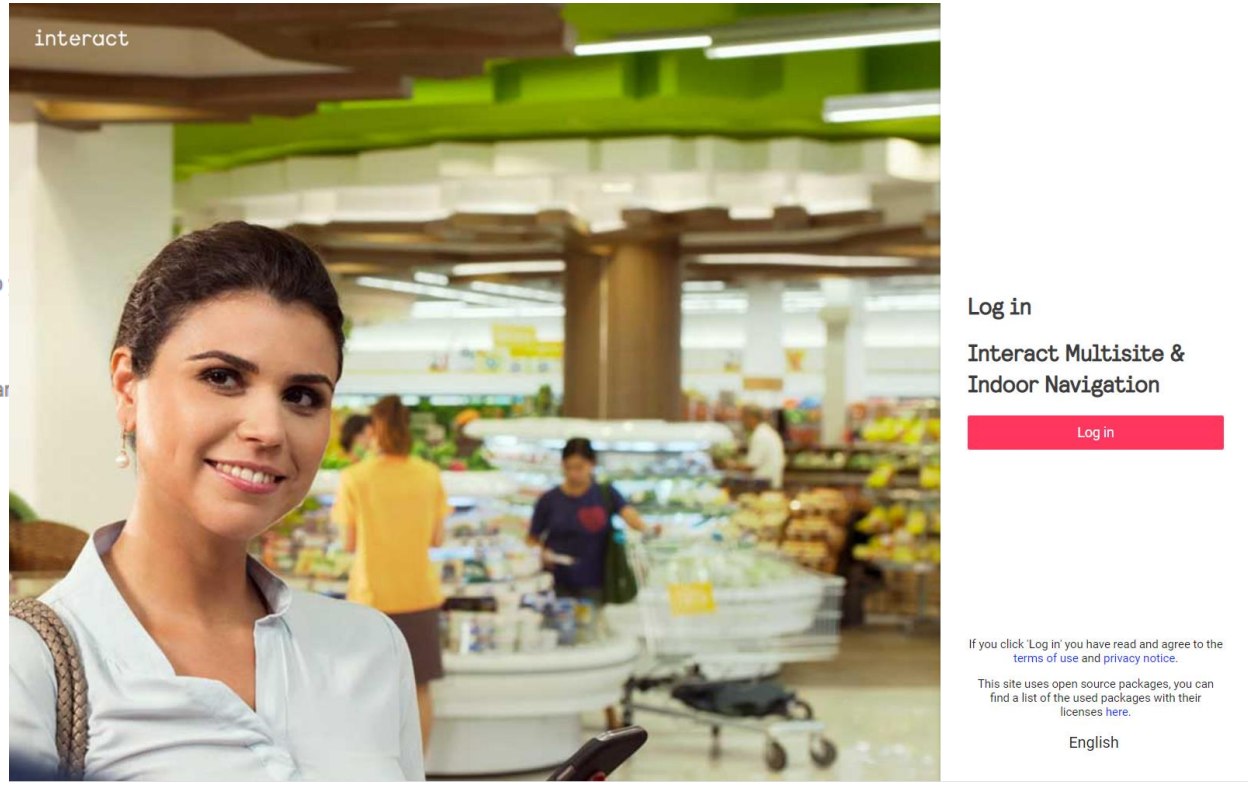
Interact Cloud | Prepare dashboard in the cloud

Multiple web browsers support the usage of the IAR Retail dashboard.

Google Chrome, Microsoft Edge, Mozilla Firefox, Apple Safari.

1. In the browser settings, change the cookies setting to **Allow all cookies**
2. Browse to the web page with the address: www.eu.retail.interact-lighting.com
3. Login and follow the authentication steps.



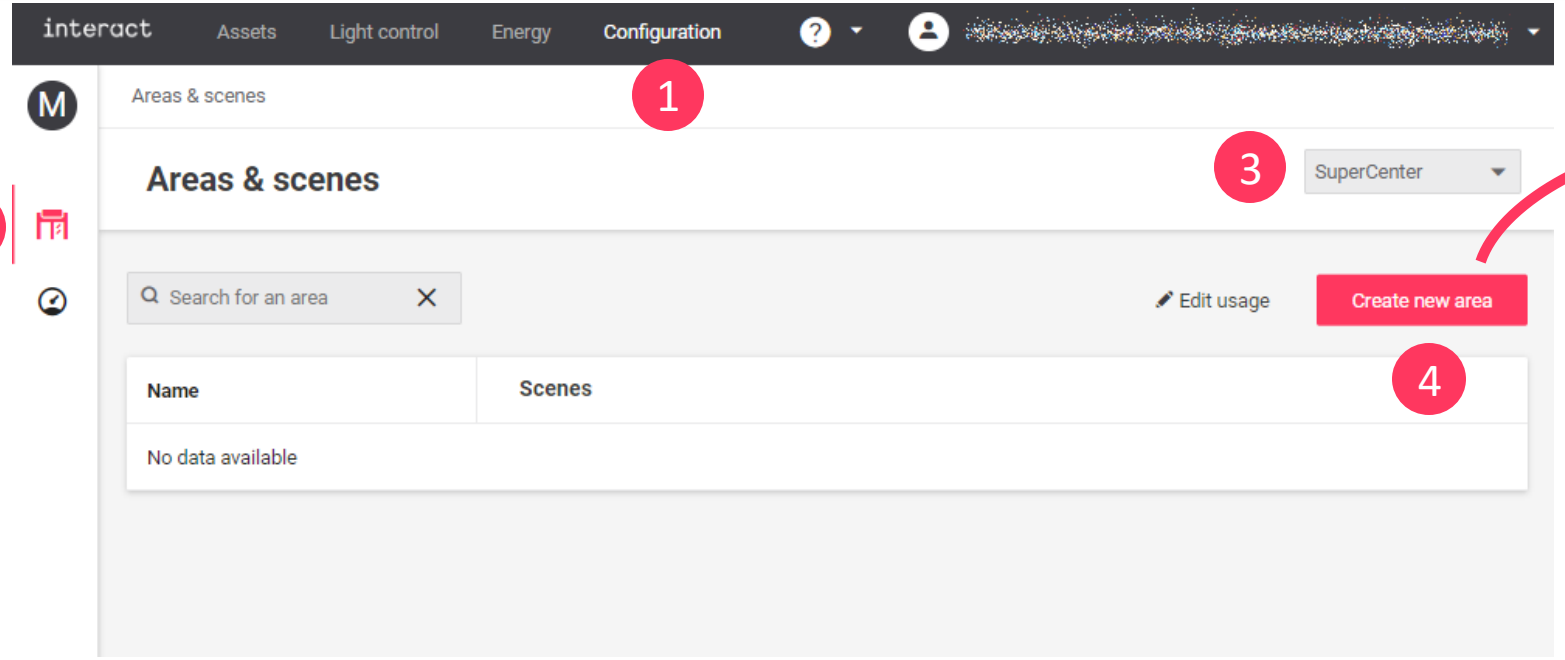


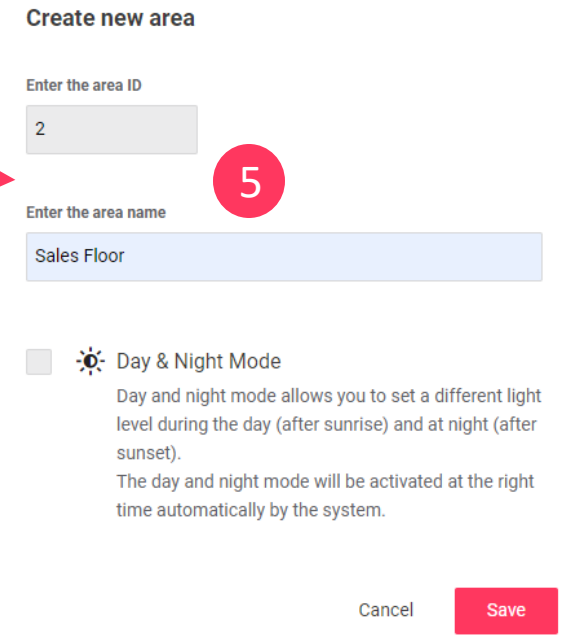
Interact Cloud | Add parent areas

1. In the top menu, click **Configuration**
2. On the left pane, select **Area & Scenes**
3. Select **Format** or **None**
4. Click **Create new area**
5. Enter the Parent Area **name** and **ID** (align with Project Template form), and press **Save**
6. Repeat for all Parent Areas

Optionally enable **Day & Night Mode**

Parent Area ID alignment is suggested to be consecutive (Area IDs 2, 3, 4….), starting from ID 2

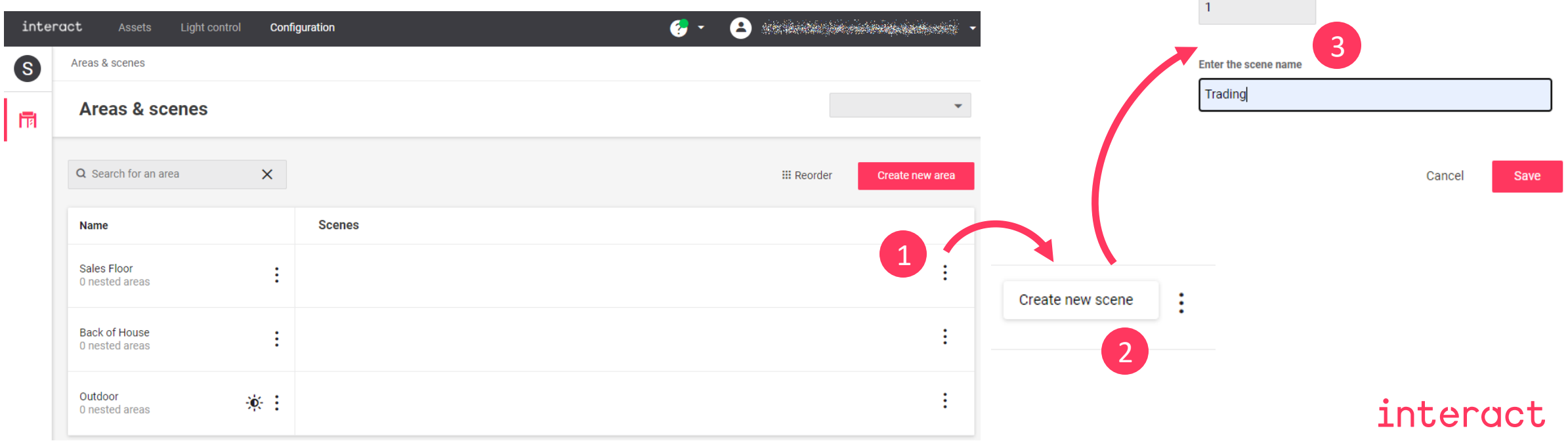




Interact Cloud | Add scenes

1. Hover over the action menu icon (⋮)
2. Click **Create new scene**
3. Enter the Scene **name** and **ID** (align with Project Template form), and press **Save**
4. Repeat for all Scenes within each Parent Area

Scenes ID alignment is suggested to be consecutive (Scene IDs 1, 2, 3….)

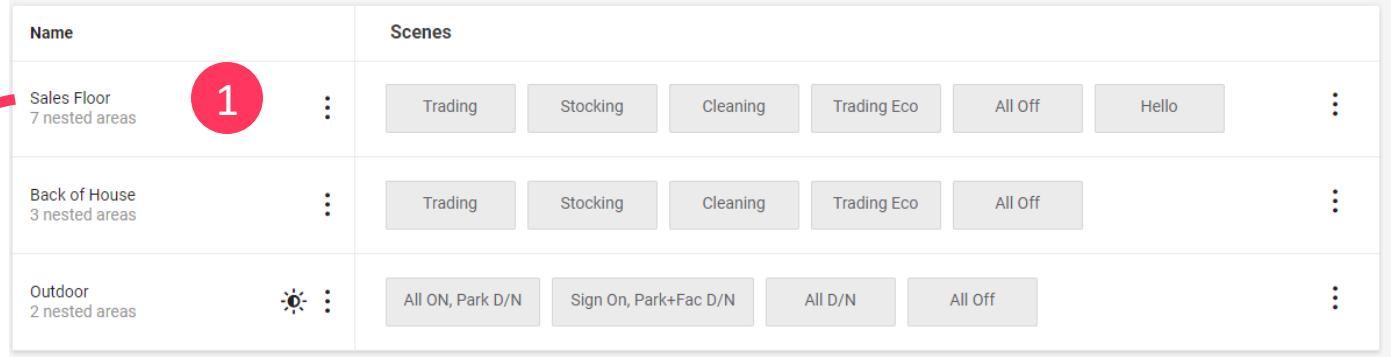


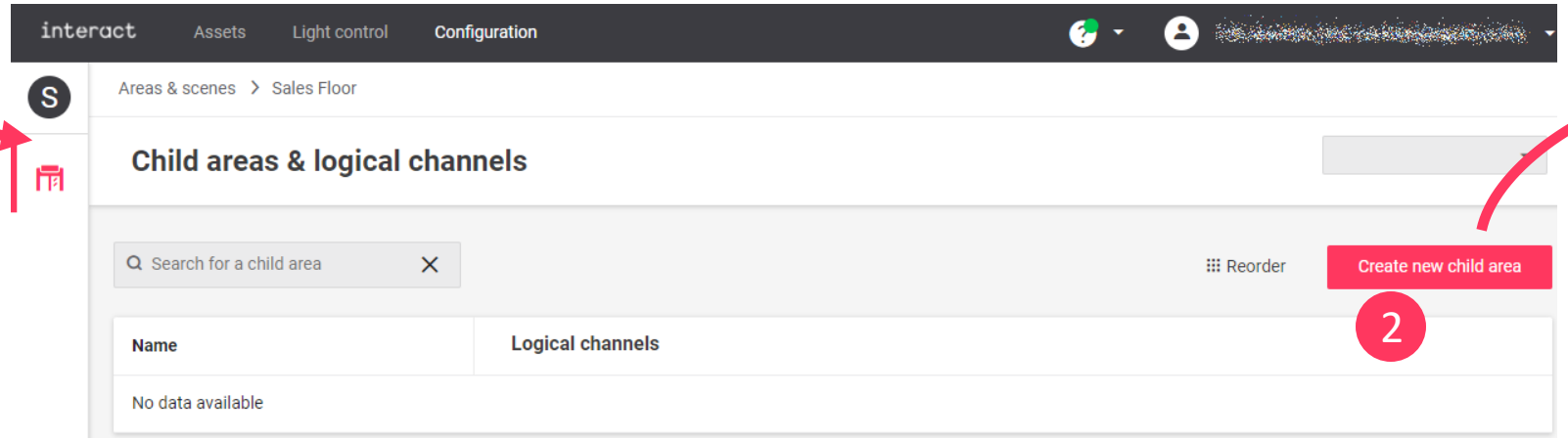
Interact Cloud | Add child areas

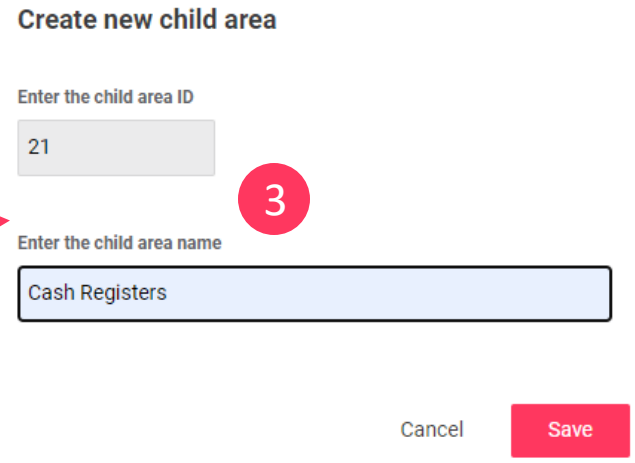
1. Click on the Parent Area, to show the list of child areas
2. Click **Create new child area**
3. Enter the Child Area **name** and **ID** (align with Project Template form), and press **Save**
4. Repeat for all Child Areas

It is suggested to assign Child Area ID, taking the ID of the Parent Area as a base.

For example: Parent Area ID = 2, Child Area ID`s 21, 22, 23….



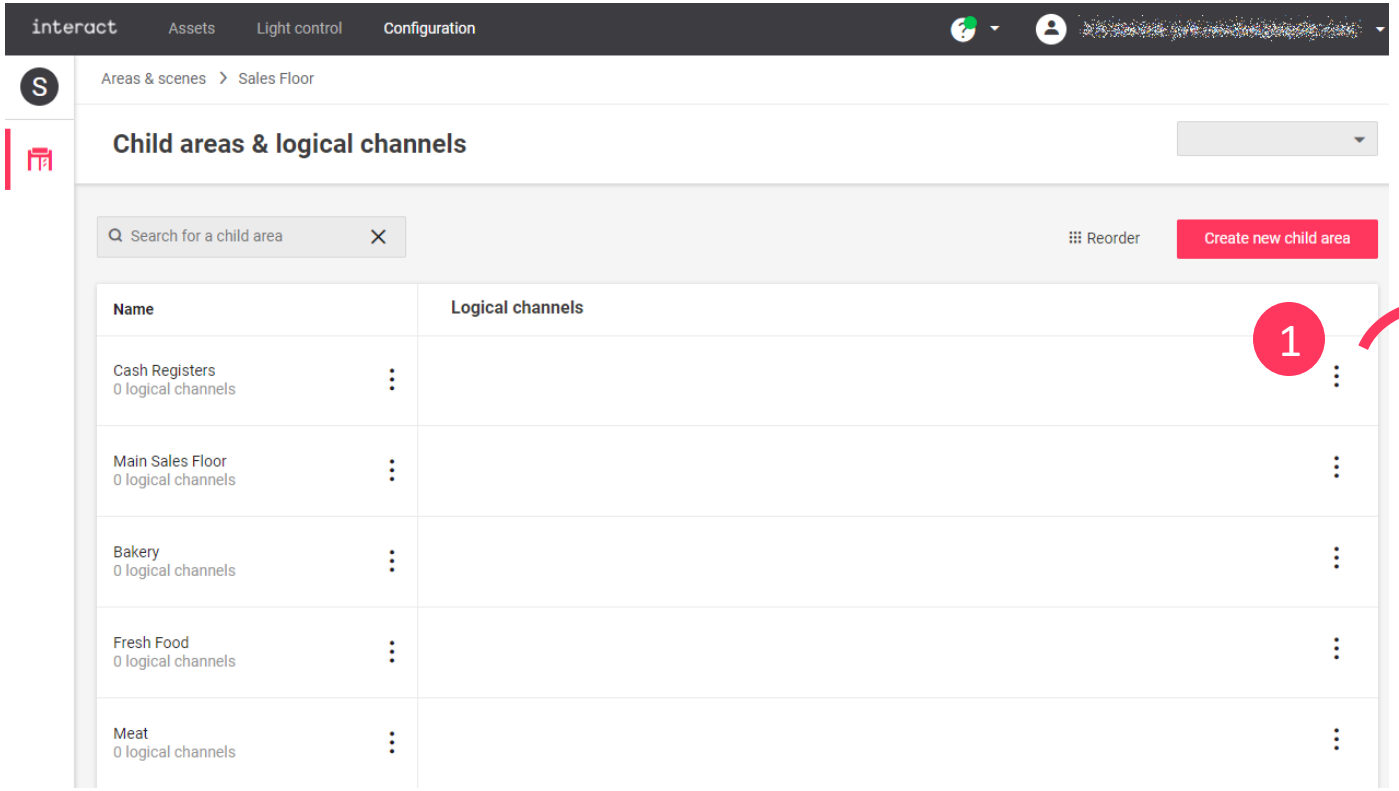




Interact Cloud | Add logical channels

1. Hover over the action menu icon ⋮
2. Click **Create new logical channel**
3. Select the type of the Logical Channel
4. Enter the Logical Channel **name** and **ID** (align with Project Template form), and press **Save**
5. Repeat for all Logical Channels within each Child Area

It is suggested to use consecutive ID`s, starting from ID 1



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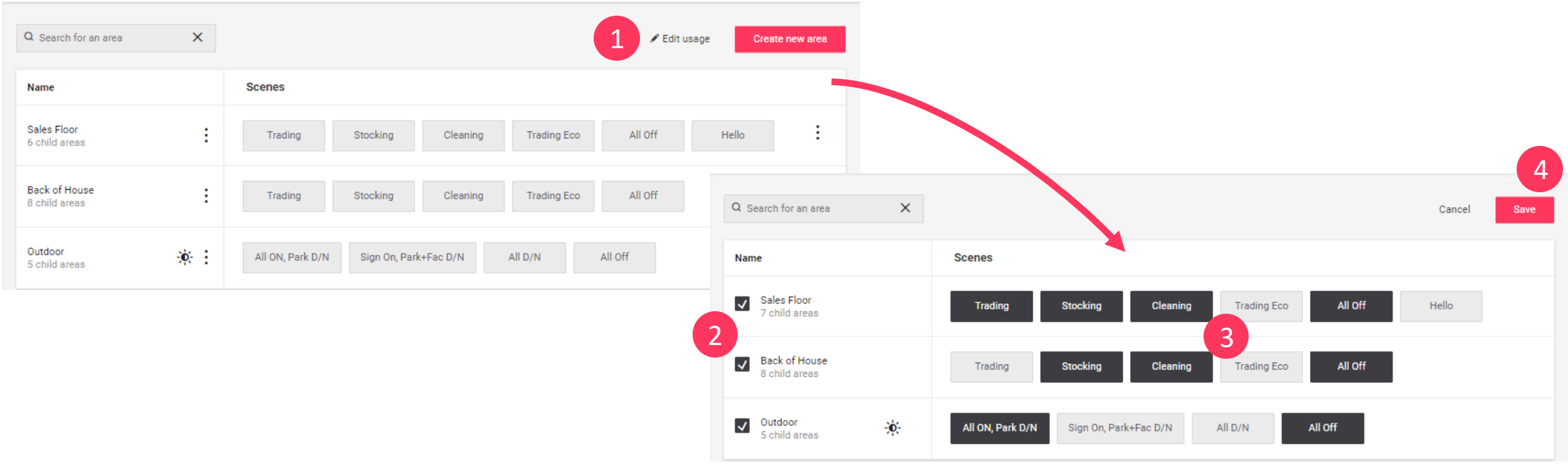
Interact Cloud | Edit usage of areas, scenes and channels

In the Parent Area, or the Child Area view:

1. Click **Edit usage**
2. Use the check box to enable / disable Areas (Parent Areas or Child Areas)
3. Select the Scenes or Logical Channels to enable / disable them. Dark theme means that scene or channel is enabled
4. Click **Save**

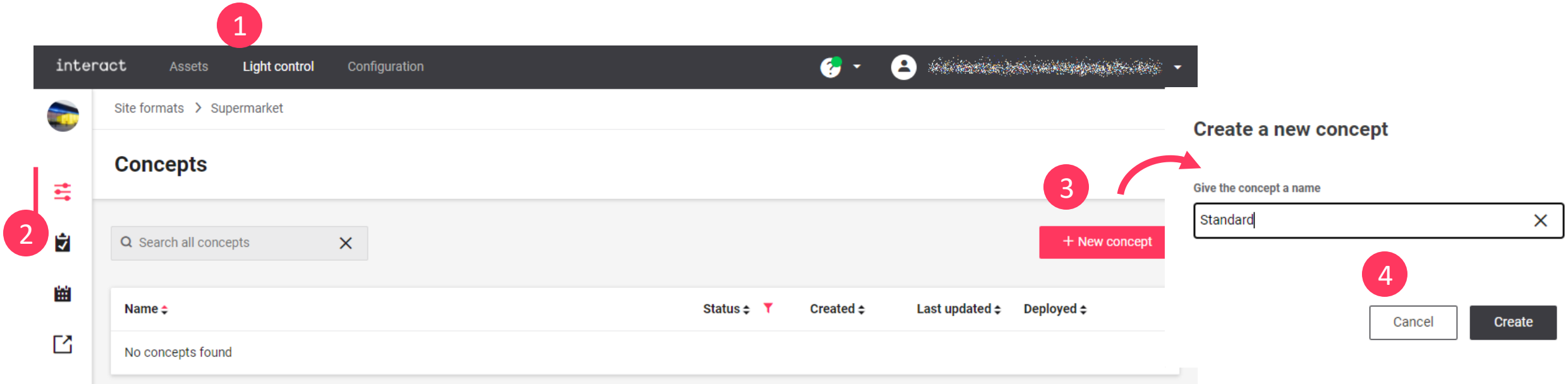


Interact Cloud | Create concept

For a new format and cloud configuration, there is a need to create default **concept**.

Concept is a set of different lighting scenes and channel levels, designed for each Parent Area.

1. In the top menu, click **Light control**
2. On the left pane, select **Concepts**
3. Click **+New concept**
4. Give the concept a name and click **Create**

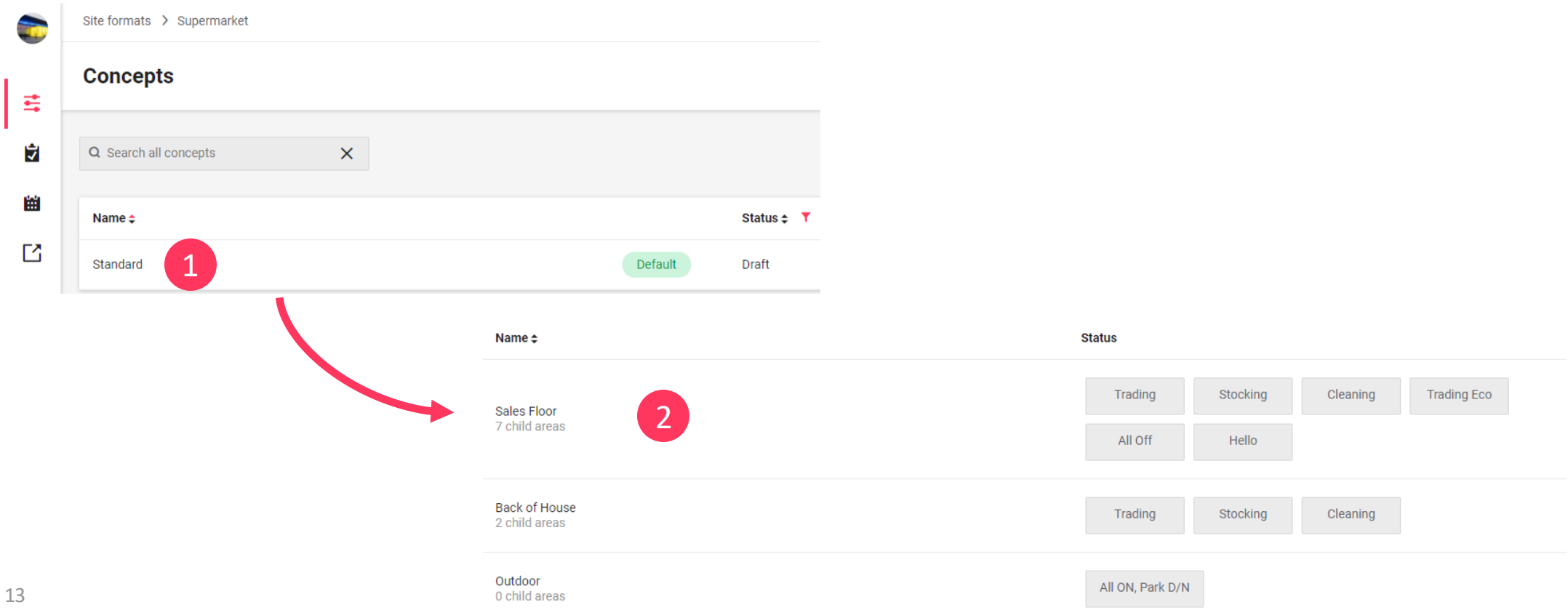


Interact Cloud | Edit concept 1/3

It is only possible to edit **concept**, with the status **Draft**. It is not possible to edit **Deployed** concepts

To modify settings of the deployed concept, **create a Clone** of the **Deployed concept** first, and then start editing.

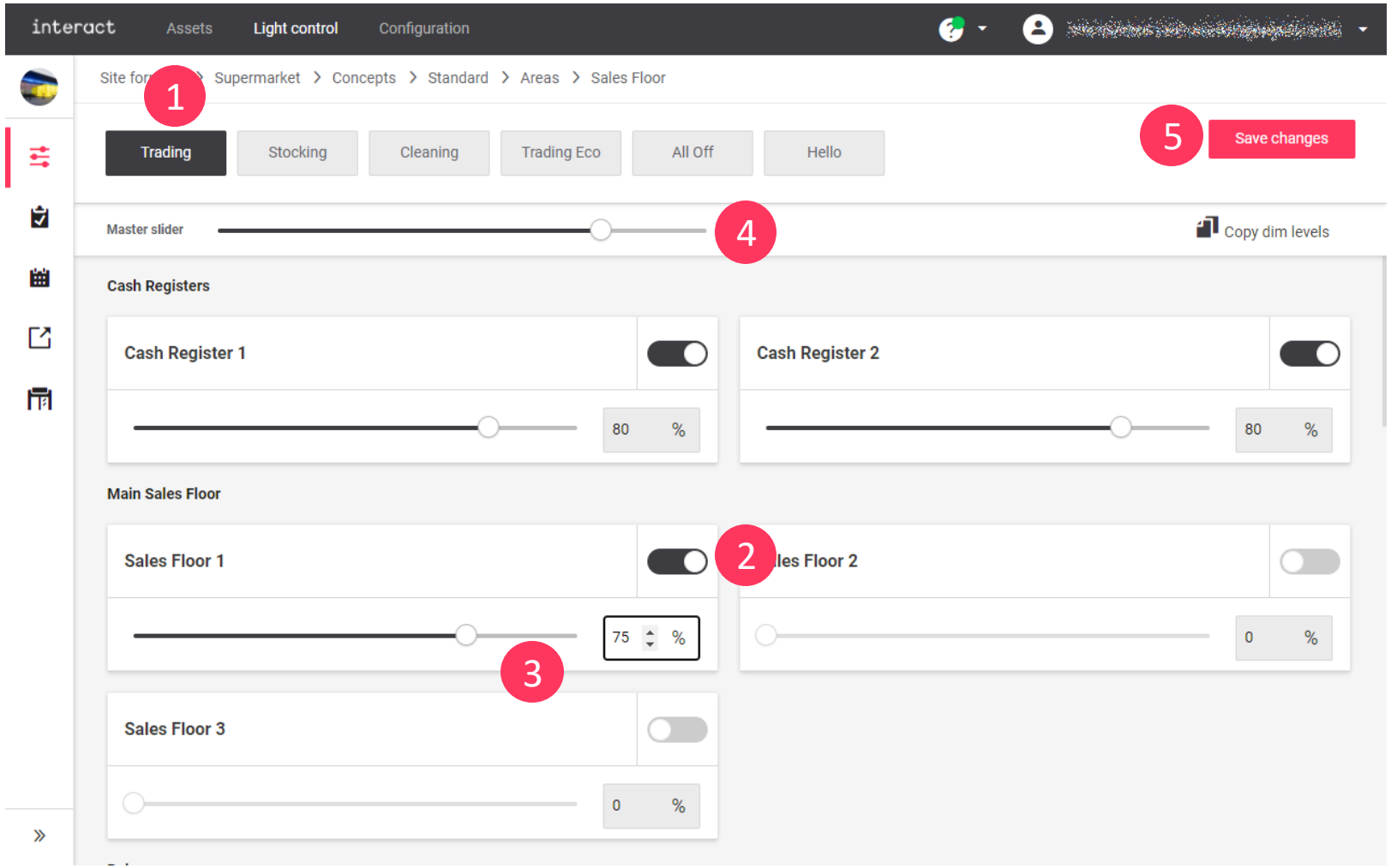
1. Click on the name of a created concept
2. Click on the row of the Parent Area to start editing **concept** for that area



Interact Cloud | Edit concept 2/3

Start editing the light settings for the area:

1. Select a Scene to edit channel level settings
2. Switch the zone **ON** or **OFF,** using a toggle switch
3. Move the **dim slider** to adjust light level, or enter the value in the box
4. Use the **Master slider** to change the relative dim level of all zones that are switched to ON
5. Click **Save changes**
6. Repeat for the other scenes in the area
7. Repeat for the other Parent Areas in the concept



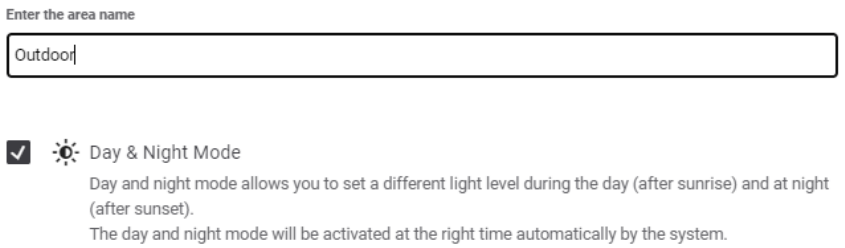
Interact Cloud | Edit concept 3/3

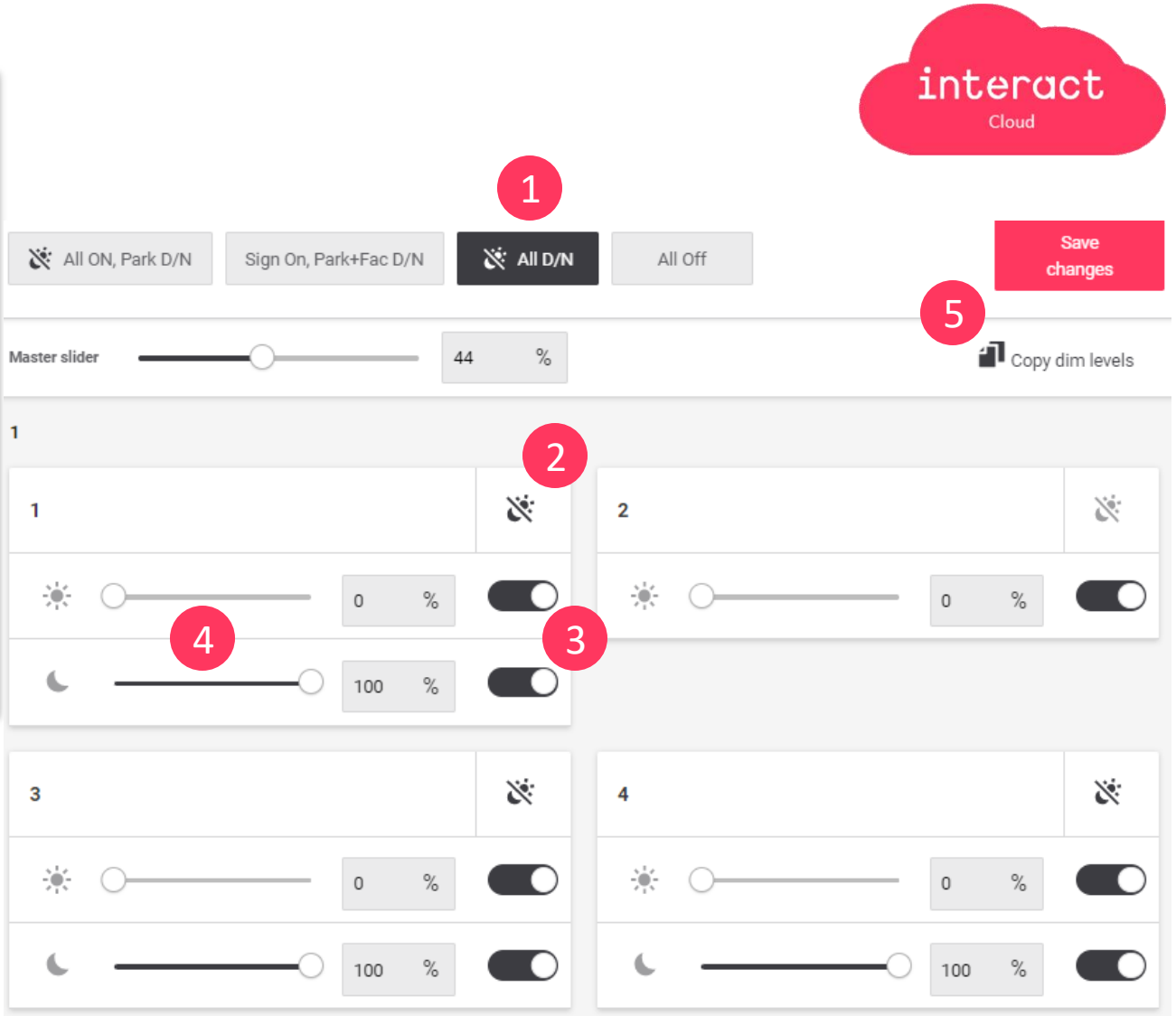
When one of the Parent Areas has the **Day & Night Mode** enabled, a specific configuration for scenes applies.

1. Select a Scene to edit channel light settings
2. Click on the **Sun & Moon** icon, to activate the **day-night** setting. Two sliders show up, one for day, another for night.
3. Switch channels **ON** or **OFF**
4. Move the **dim sliders** to adjust light levels, for day and night.
5. Click **Save changes**
6. Repeat for the other scenes in the area, if the **Day & Night Mode** applies

Day and **Night** are determined by the Astro-clock functionality on the gateway

After sunrise, the Day setting is applied and after sunset, the Night setting.

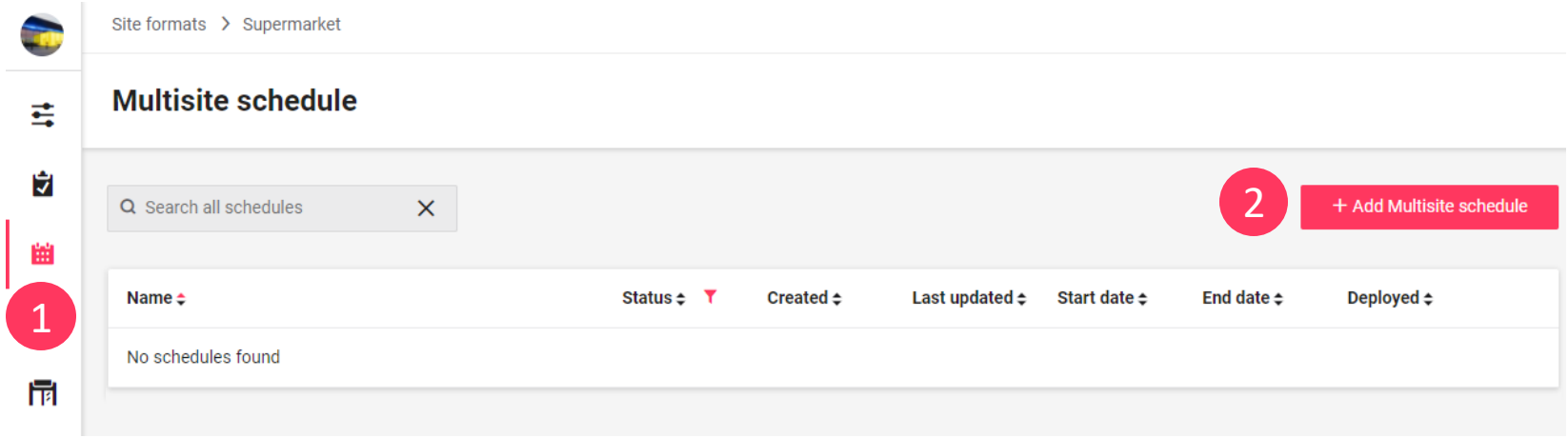


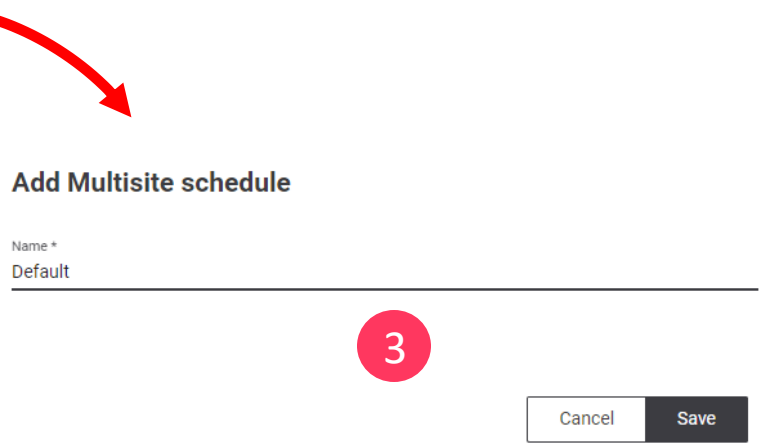


Interact Cloud | Add schedule 1/3

Each format requires a default **schedule**.

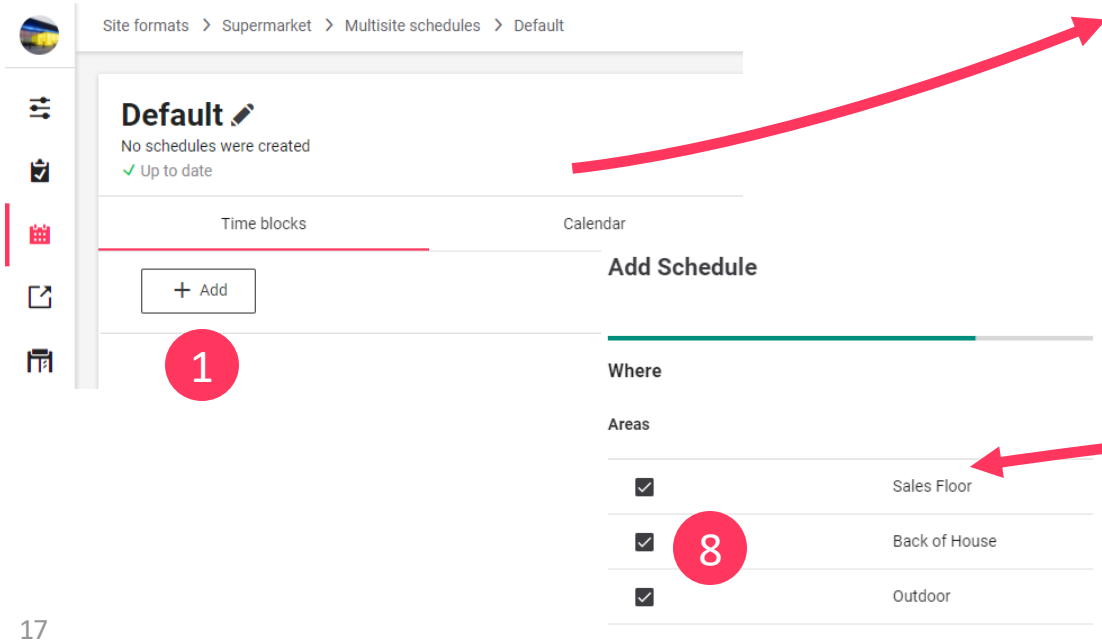
1. In the Light control tab, on the left pane, select **Schedules**
2. Click **+Add Multisite schedule**
3. Give the schedule a name and click **Save**

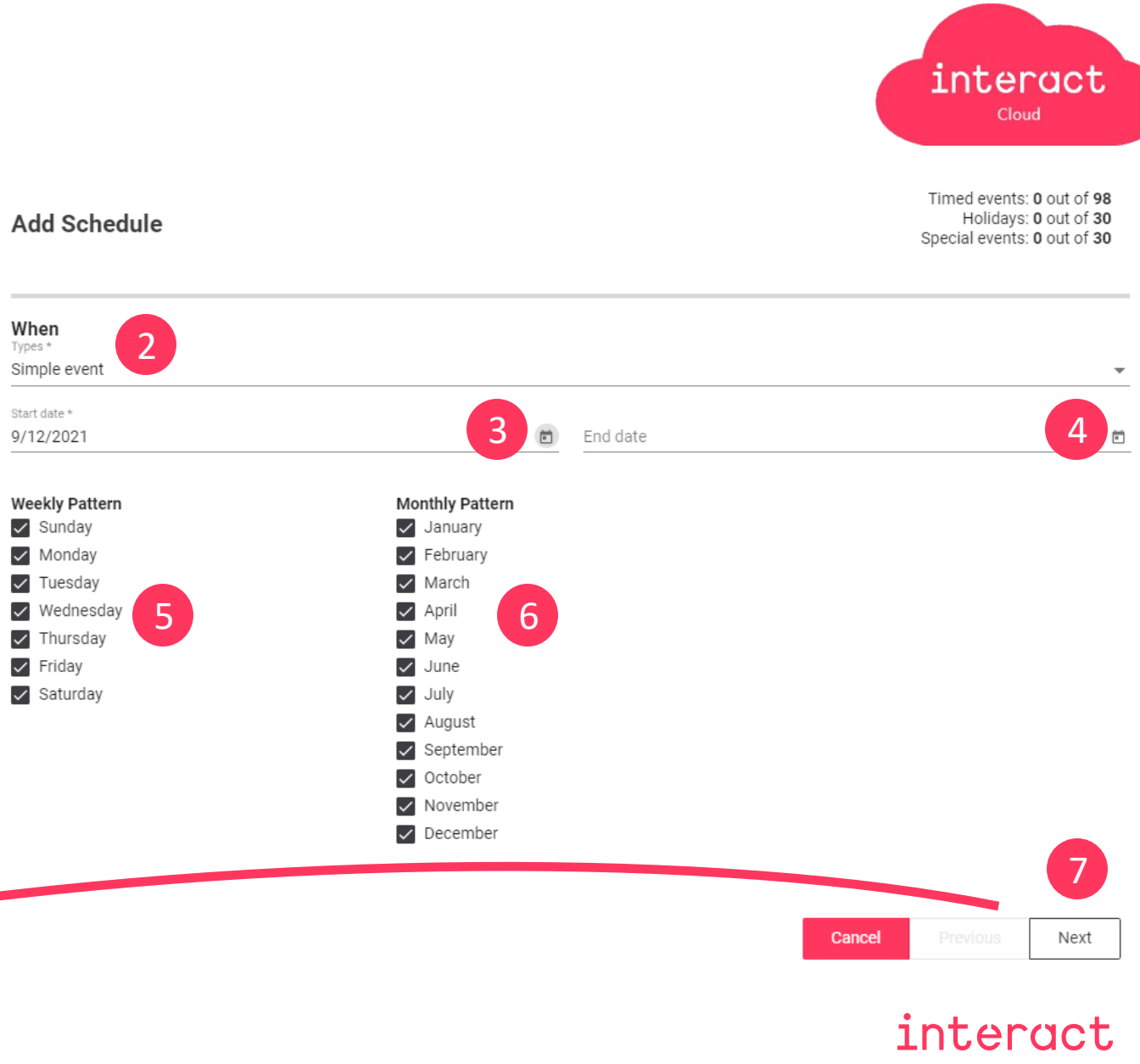




Interact Cloud | Add schedule 2/3

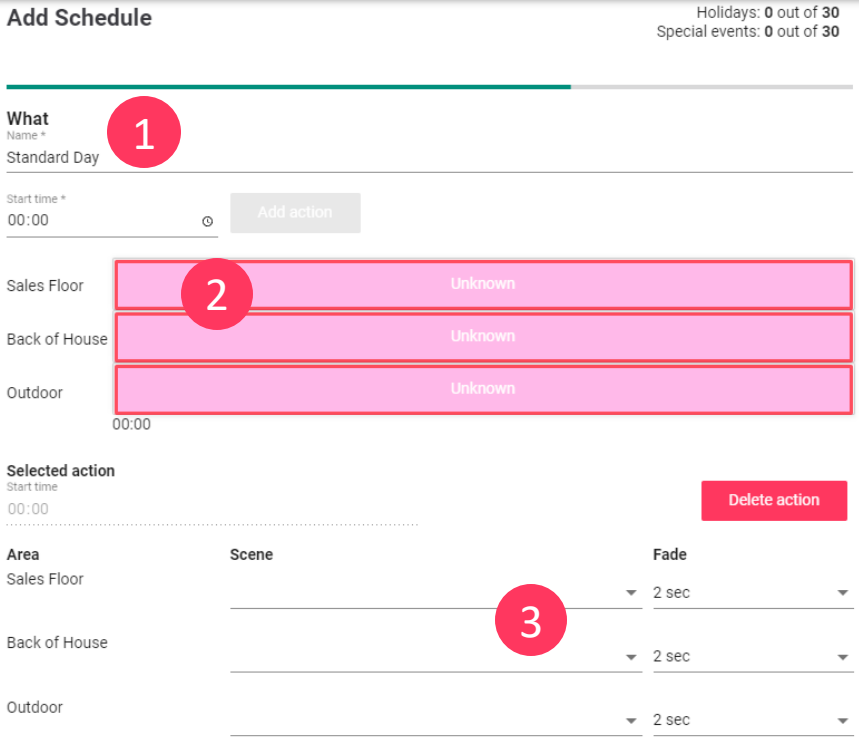
1. Click **+Add** to start creating the schedule
2. Select the **Type** of event (Simple event, Holiday, Special event)
3. Click the calendar to select the **Start date**
4. Click the calendar to specify the **End date**
5. Clear/select the days for the **Weekly Pattern**
6. Clear/select the months for the **Monthly Pattern**
7. Click **Next**
8. Select to which **Areas** the schedule applies, then click **Next**

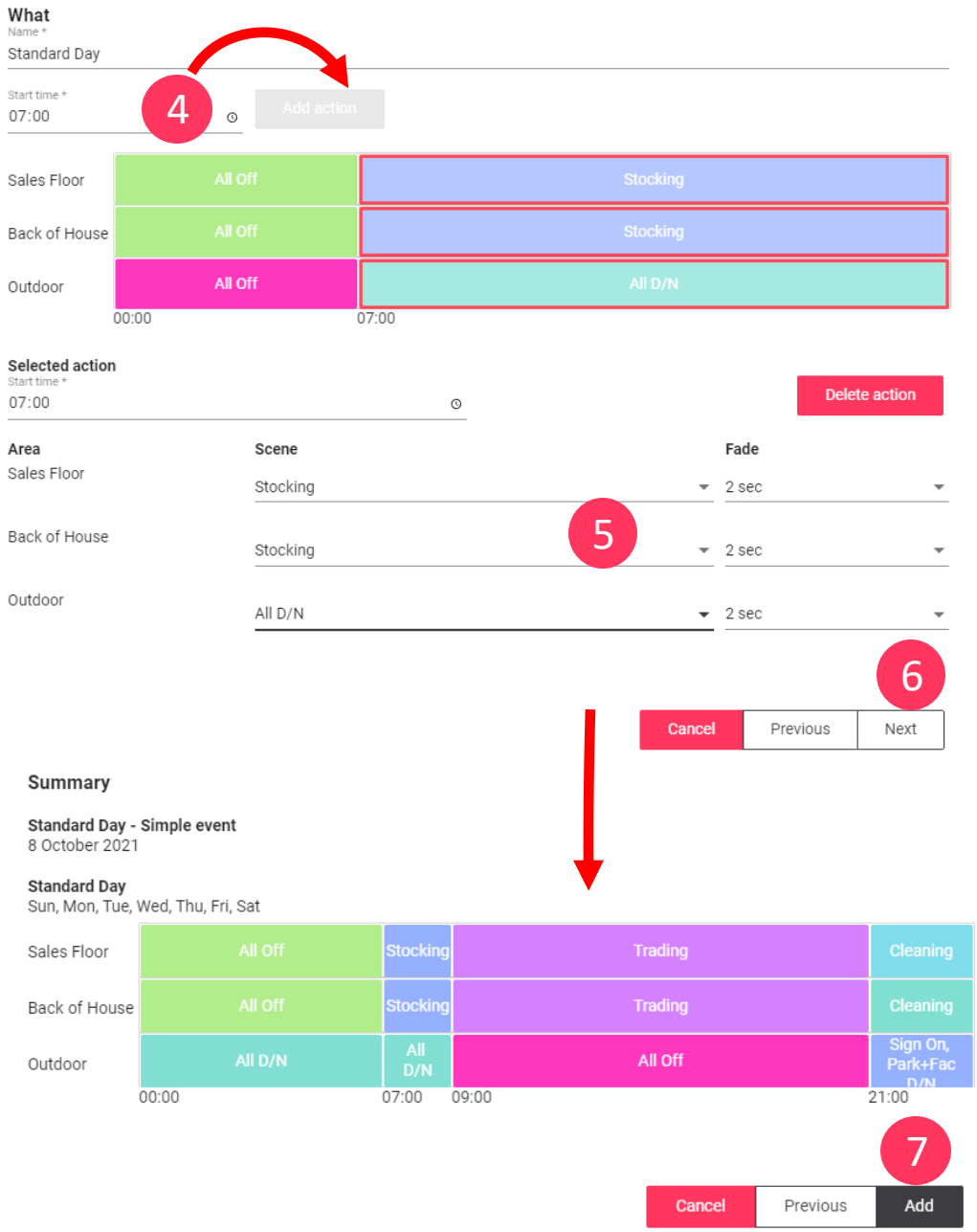




Interact Cloud | Add schedule 3/3

1. Enter the **Name** for the schedule (e.g., Standard Day)
2. Keep start time at **0:00** and click on the **Unknown** scene
3. Select the **Scene** and desired **Fade** time
4. Click the clock to define the **Start time** and press **Add Action**
5. Select the **Scene** and **Fade** time
6. Repeat for other desired timeframes, then click **Next**
7. Verify created schedule, and click **Add**



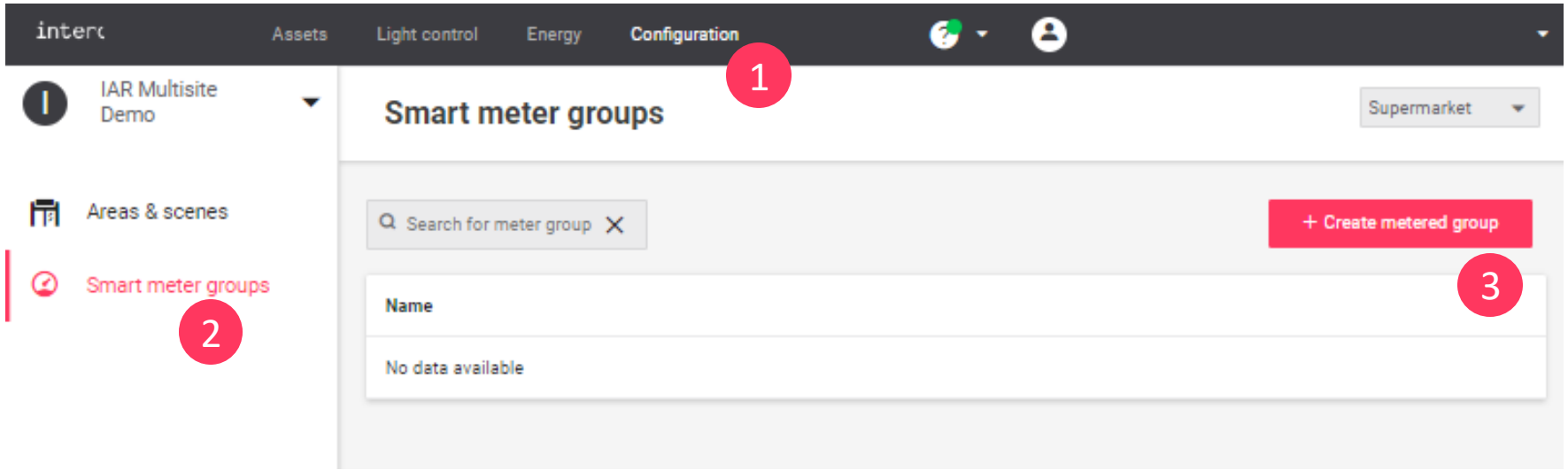


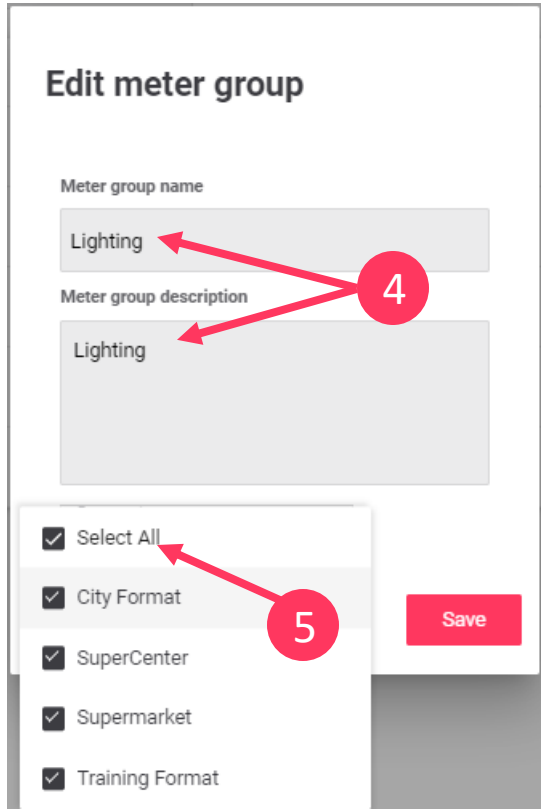
Interact Cloud | Add Smart meter groups

This step is only required when **smart meters** are used in the project to measure energy consuption.

To configure **Smart meter groups** in the Multiste dashboard:

1. Go to the **Configuration** tab.
2. On the left menu, select **Smart meter groups**.
3. Click **Create metered group** to create one.
4. Enter a **Group name** for the metered group and provide a **Group description**.
5. Click the dropdown and select **Select All**. Click **Save**.
6. Add all required Smart meter groups (power zones) by repeating the steps above.





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Prepare System Builder job file

Architecture FLX - Multisite

System Builder | Design Mode 1/2

System Designer is a tool which streamlines the process for generating control system design.

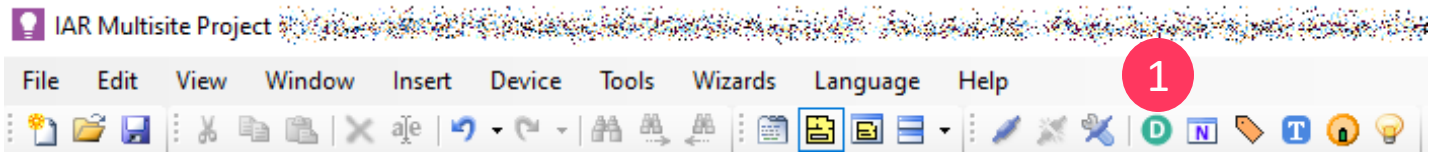
In order to use System Designer, a **technician license** for **System Builder** is required.

It`s highly recommended to study the dedicated **User Guide** first:

in **System Builder** click **Help → User Guides** and select the **System Designer User Guide**.

<u>To start with project design:</u>

1. Click **Design icon** to start the **System Designer Mode**
2. Follow all the steps of the **Design Assistant**

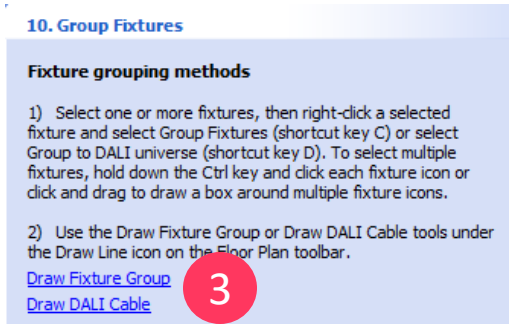


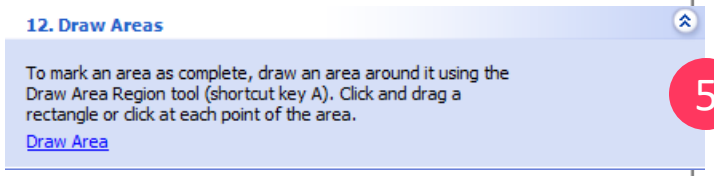
System Builder | Design Mode 2/2

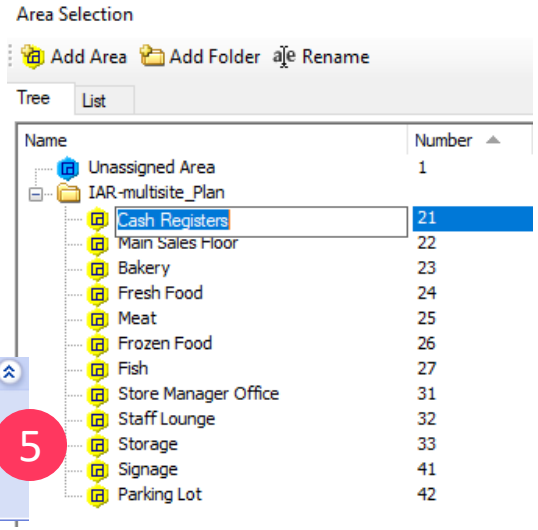
Take care for the following attention points:

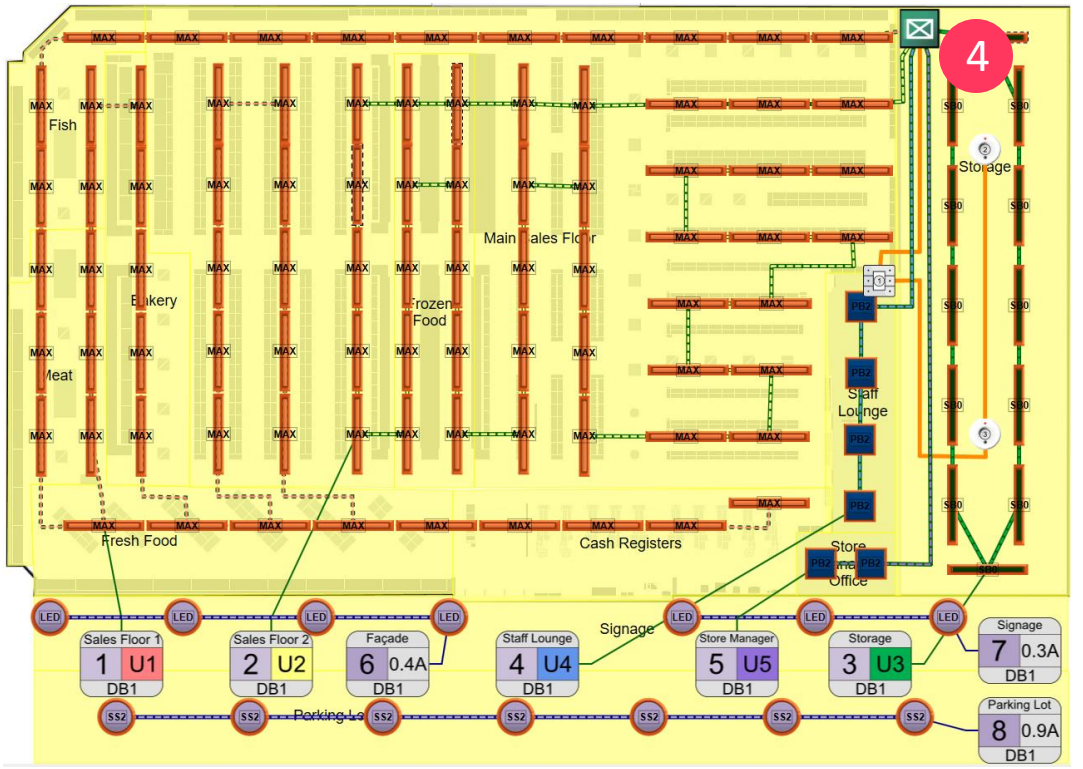
3. In point **10. Group Fixtures:**
   - Use **Draw Dali Cable** to connect the DALI controlled luminaires, both broadcast and addressable.
   - Use **Draw Fixture Group** for switchable luminaires
4. Make sure created **Universes** are linked with a **Distribution Board** by the cables
5. In point **12. Draw** Child Areas give names and assign ID`s.. This must be consistent with the **Interact Cloud** configuration, and the **Project Template** form

To close the **System Designer** tool, click again the **Design icon** D









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System Builder | Finalize logical configuration and hierarchy

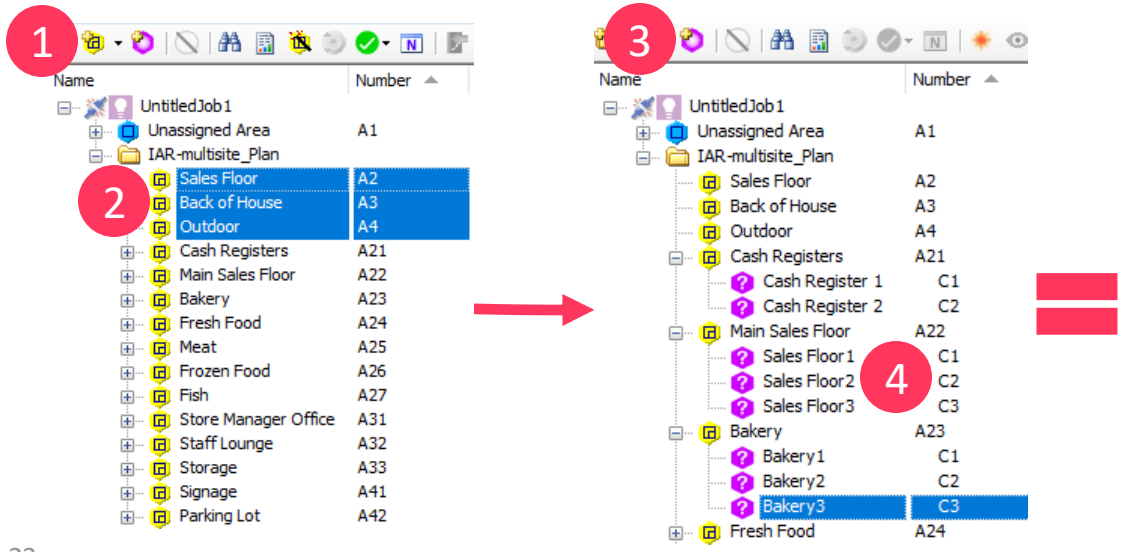
Create Parent Areas

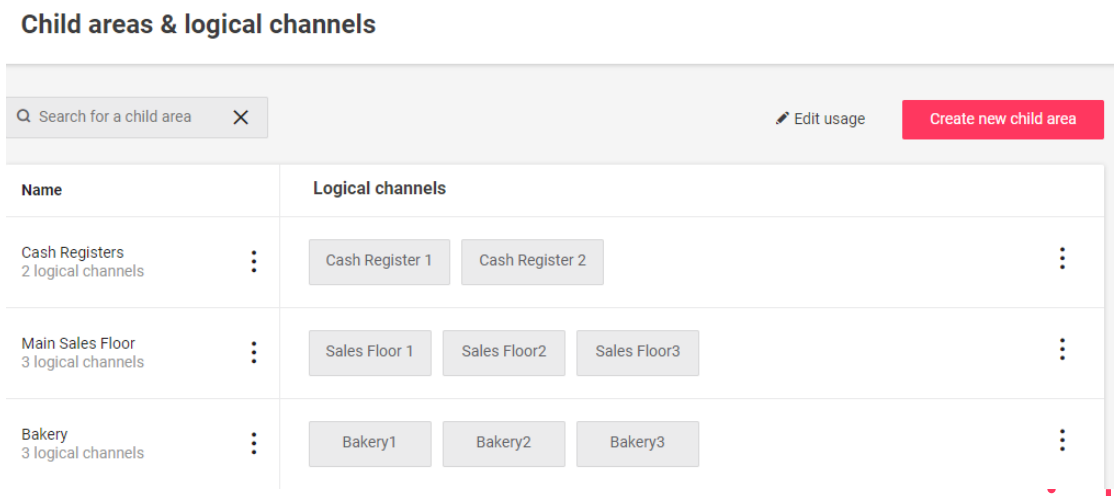
1. In the **Areas** view, click **Insert New Area**
2. Create the Parent Areas. Use the same name`s and ID`s as in the **Interact Cloud** and the **Project Template** form

Create and rename Logical Channels

3. In the **Areas** view, select the desired Child Area, and click **Insert New Channel**. Create all logical channels, mirroring the **Interact Cloud** configuration thus the **Project Template** form.
4. Rename all channels in all Child Areas, and make sure to use identical **ID numbers,** as configured in the **Interact Cloud** and the **Project Template.**

Child area naming (e.g. Cash registers, Main ales floor, Bakery, ...)	Logical channel naming
Child area name	Logical channel name
Cash Registers #21	Cash Register 1
	Cash Register 2
Child area name	Logical channel name
Main Sales Floor #22	Sales Floor1 #1
	Sales Floor2 #2
	Sales Floor3 #3
Child area name	Logical channel name
Bakery #23	Bakery1 #1
	Bakery2 #2
	Bakery3 #3





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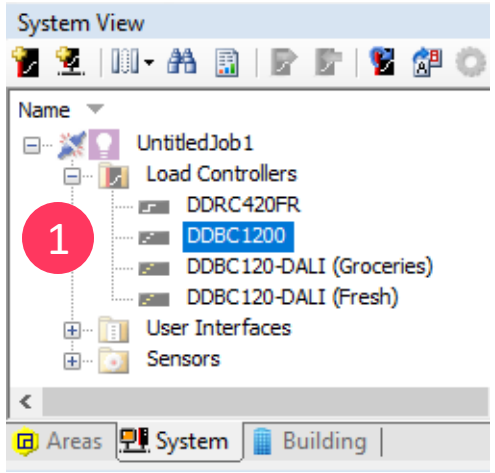
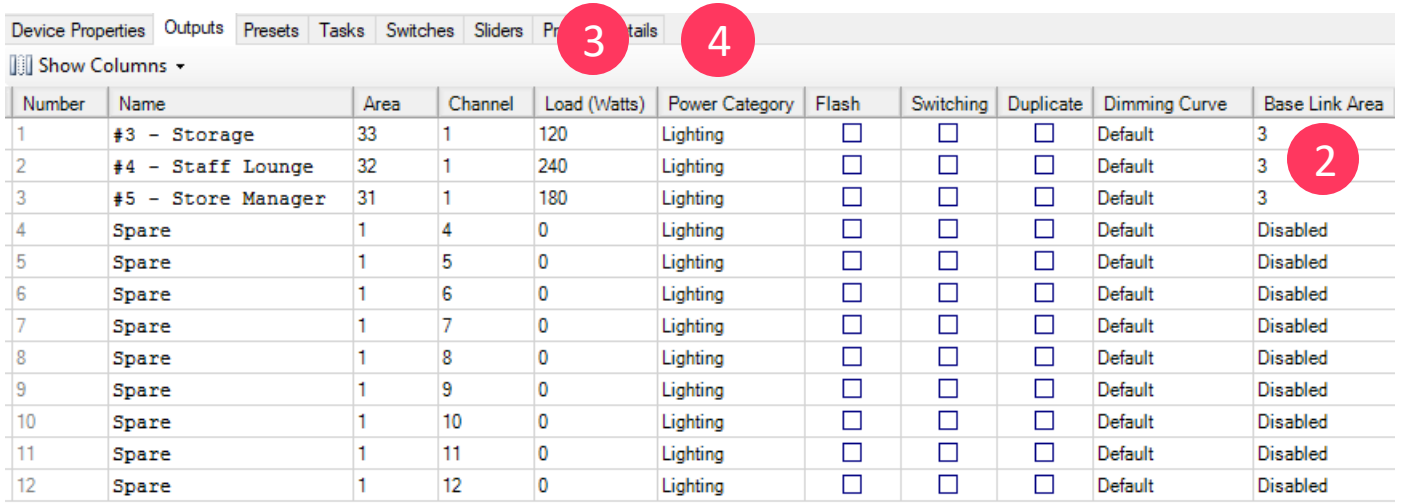
System Builder | Set Base Link Area and channel load

In the **offsite preparation**, it`s only possible to set channel **Base Link Areas** and **Loads** for **broadcast and relay controllers**. Configuration of enumerated channels is a part of an *Onsite commissioning*, which will be covered in the next training module.

1. In the **System** view, open the tree of the Load Controllers and select a controller.
2. On the **Outputs** tab in the column **Base Link Area**, enter the number of the Parent Area, the Physical channel links to. (It is also possible to draw BLA on the **Floor Plan View**)
3. In the column **Load (Watts),** fill in calculated channel load
4. Set physical channel **Power Category** to **Lighting**





Number	Name	Area	Channel	Load (Watts)	Power Category	Flash	Switching	Duplicate	Dimming Curve	Base Link Area
1	#3 - Storage	33	1	120	Lighting	☐	☐	☐	Default	3
2	#4 - Staff Lounge	32	1	240	Lighting	☐	☐	☐	Default	3
3	#5 - Store Manager	31	1	180	Lighting	☐	☐	☐	Default	3
4	Spare	1	4	0	Lighting	☐	☐	☐	Default	Disabled
5	Spare	1	5	0	Lighting	☐	☐	☐	Default	Disabled
6	Spare	1	6	0	Lighting	☐	☐	☐	Default	Disabled
7	Spare	1	7	0	Lighting	☐	☐	☐	Default	Disabled
8	Spare	1	8	0	Lighting	☐	☐	☐	Default	Disabled
9	Spare	1	9	0	Lighting	☐	☐	☐	Default	Disabled
10	Spare	1	10	0	Lighting	☐	☐	☐	Default	Disabled
11	Spare	1	11	0	Lighting	☐	☐	☐	Default	Disabled
12	Spare	1	12	0	Lighting	☐	☐	☐	Default	Disabled

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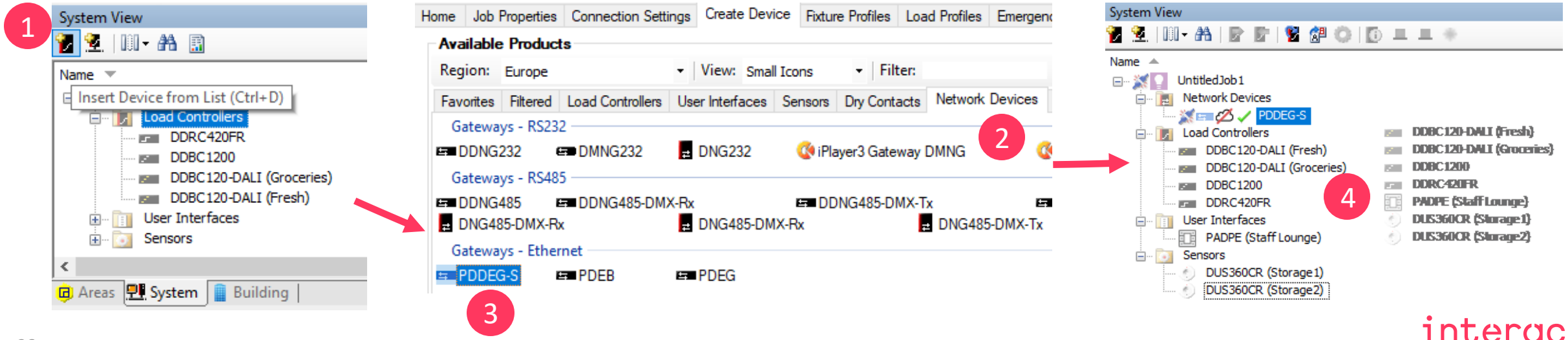
System Builder | PDDEG-S Gateway 1/5

Add the site gateway

1. In the **System** view, click **Insert Device from List**
2. Select the **Network Devices** tab
3. Under Gateways – Ethernet, double-click the **PDDEG-S**, to add it to the project topology
4. Press **Shift** to multiselect all Load controllers, User interfaces and Sensors
5. Move the devices under the **PDDEG-S.**
6. In the **Building View**, Drag & Drop **PDDEG-S** under **Distribution Board (DB1)**

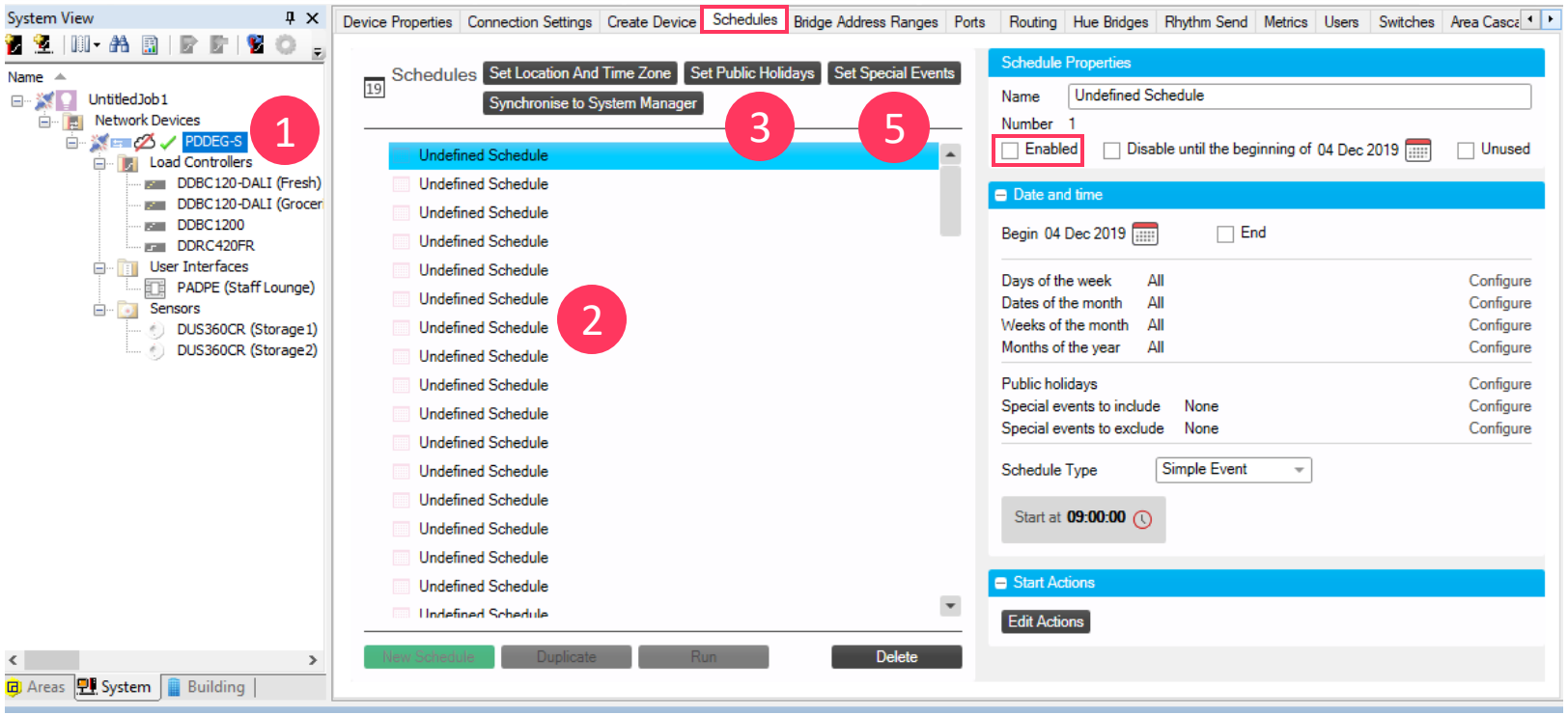
Project topology is now created.

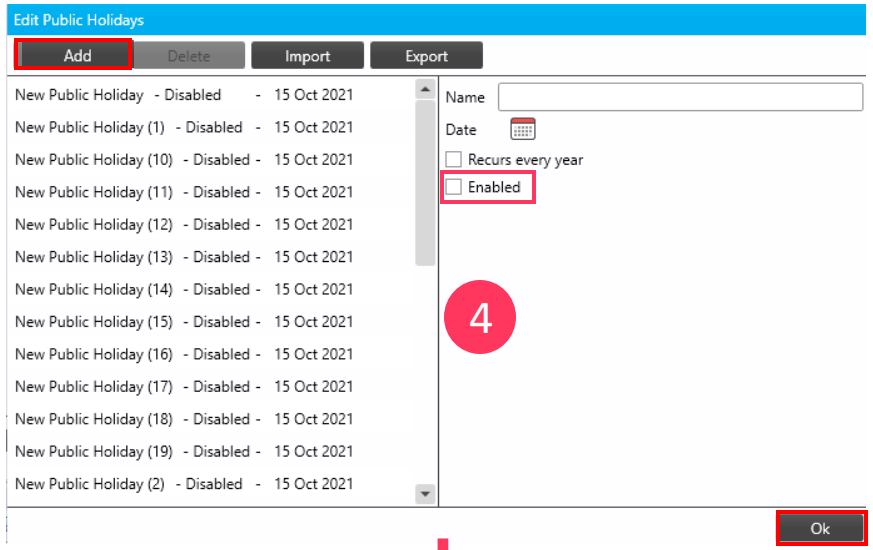


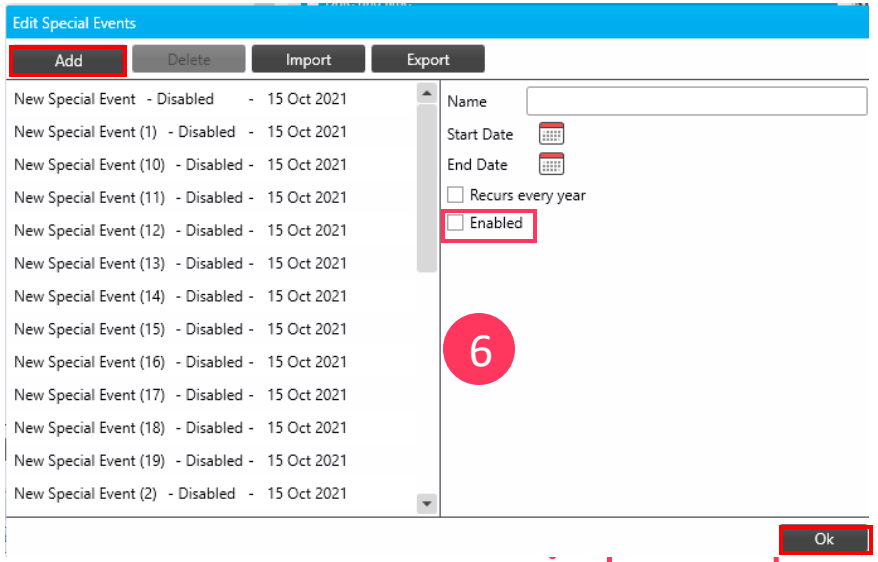
System Builder | PDDEG-S Gateway 2/5

Configure 100 Simple Event schedules, 30 public holidays and 30 special events

1. In the **System** view, select the **PDDEG-S**
2. On the **Schedules** tab, check if there are **100 *Undefined Schedules*** available. Make sure that all schedules are **disabled**, and the schedule type is **Simple Event**
3. Click **Set Public Holidays**
4. Add **30 New Public Holidays**. Make sure all are **disabled**. Click **Ok**
5. Click **Set Special Events**
6. Add **30 New Special Events**. Make sure all are **disabled**. Click **Ok**



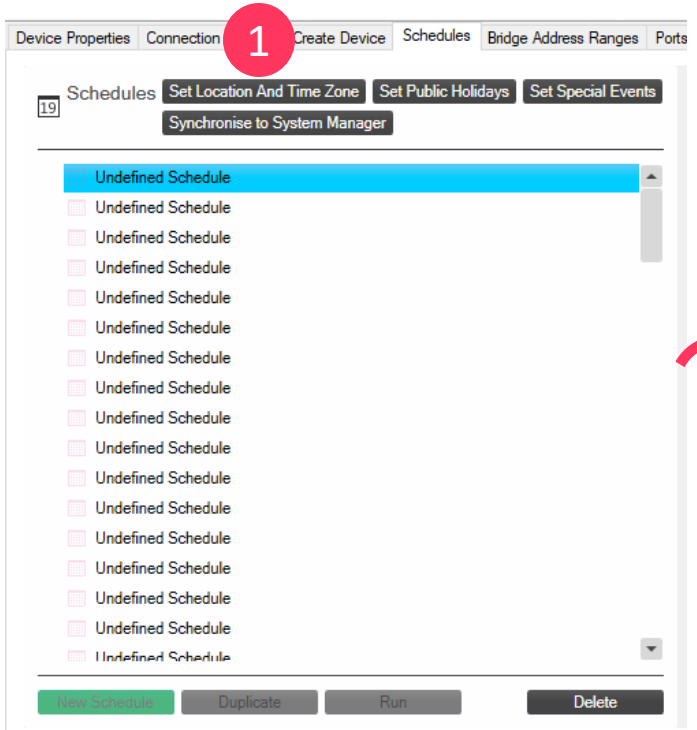


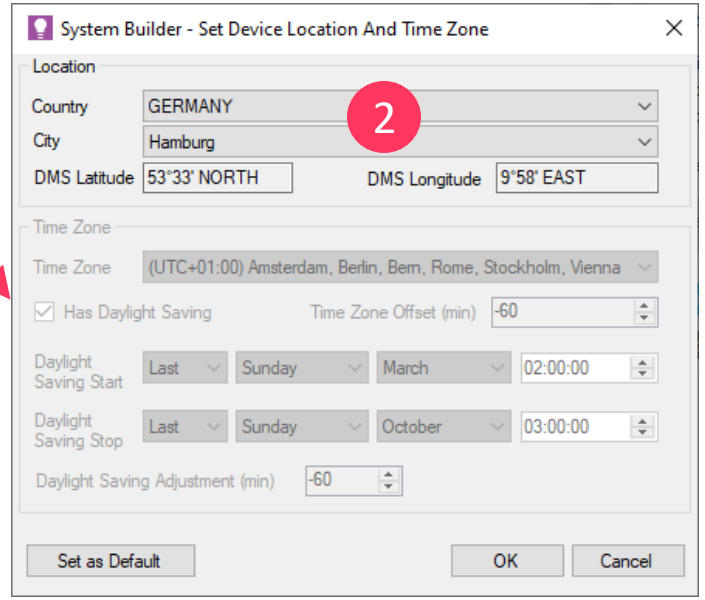


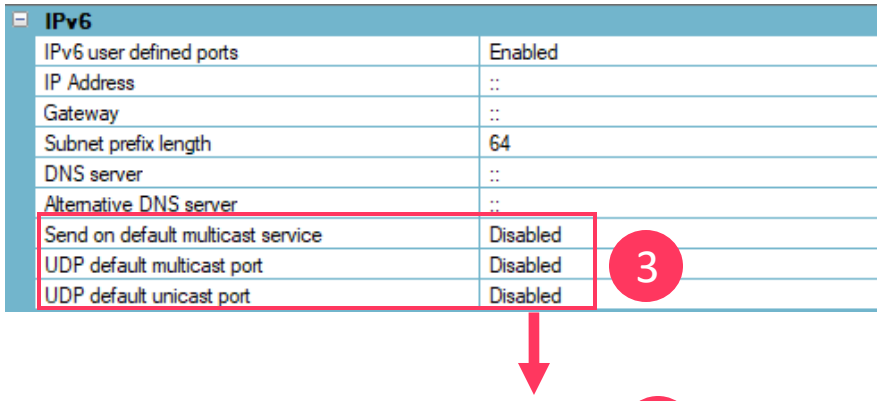
interact

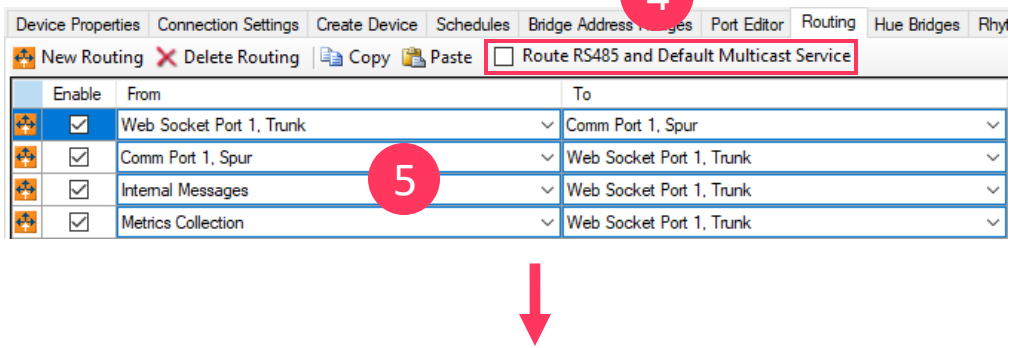
System Builder | PDDEG-S Gateway 3/5

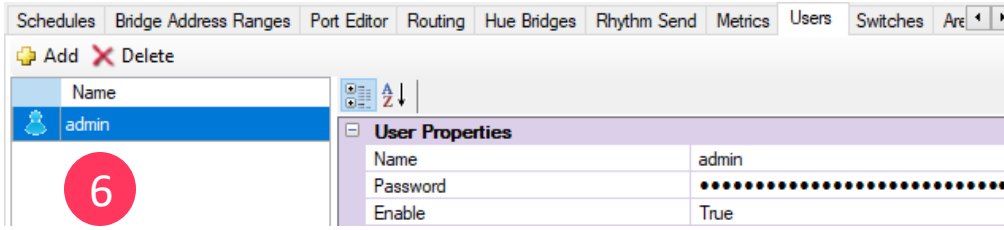
1. On the **Schedules** tab, click **Set Location And Time Zone**
2. Specify **Country** and **City** reflecting the correct time zone for the site. Click **OK**
3. On the **Ports** tab, in the IPv6 configuration, **disable default multicast** and **unicast** services
4. Clear **Route RS485 and Default Multicast Service** checkbox, on the **Routing** tab
5. Make sure to keep default **Web Socket Port** and **Routing** settings
6. On the **Users** tab, leave the default user properties for the admin user







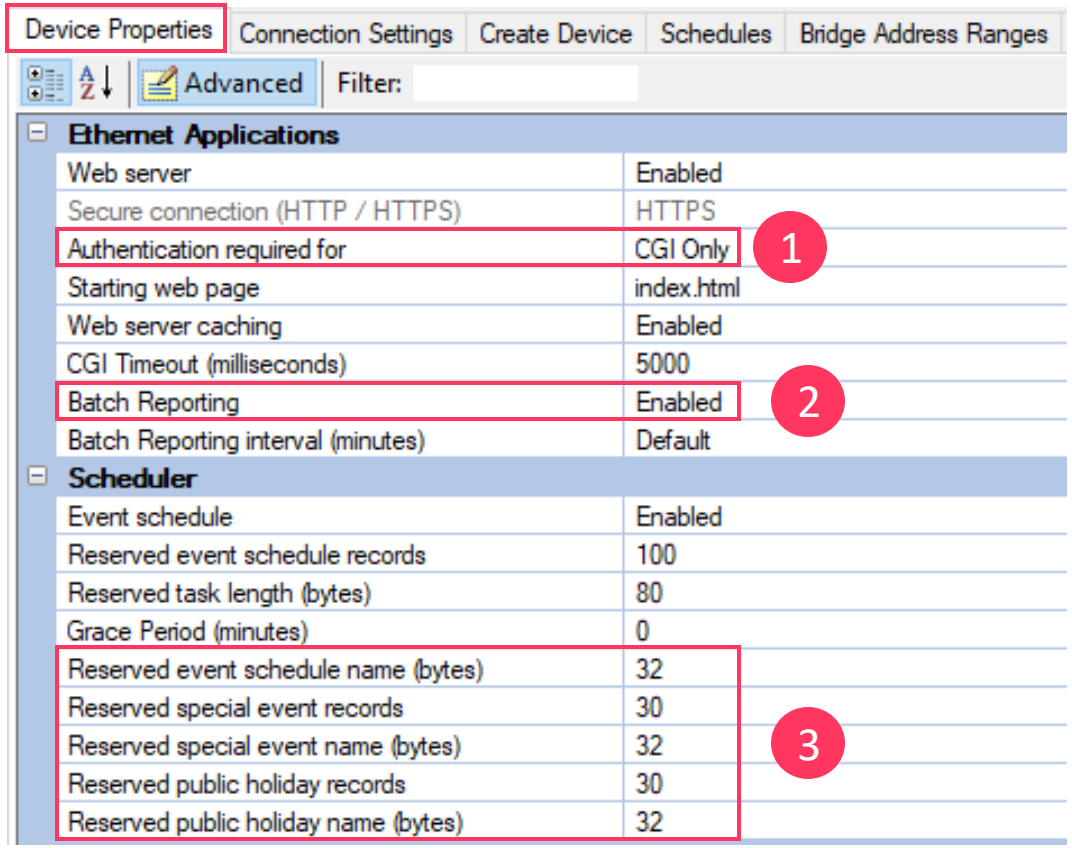




interact

System Builder | PDDEG-S Gateway 4/5

1. On the **Device Properties** tab, check the setting: *Authentication required for*: **CGI Only**
2. Enable **Batch Reporting** feature.
3. Configure **30 special event** and **public holiday records**. Raise name length to **32 bytes**.



interact

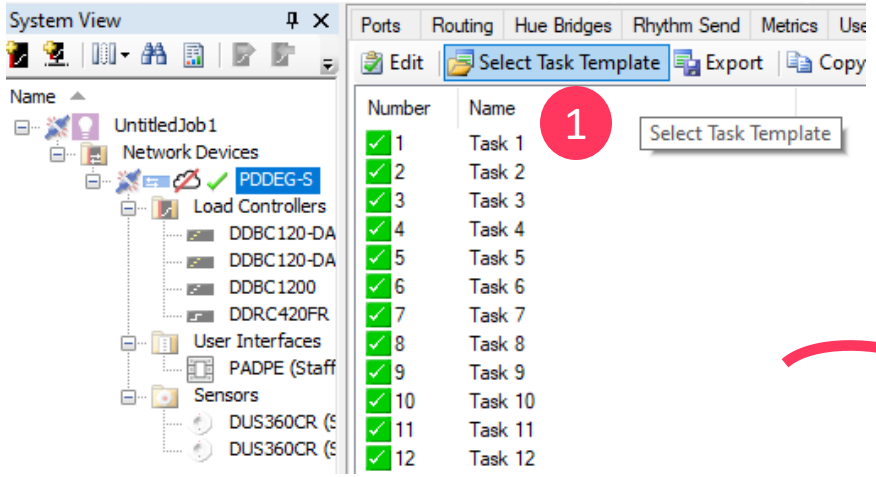
System Builder | PDDEG-S Gateway 5/5

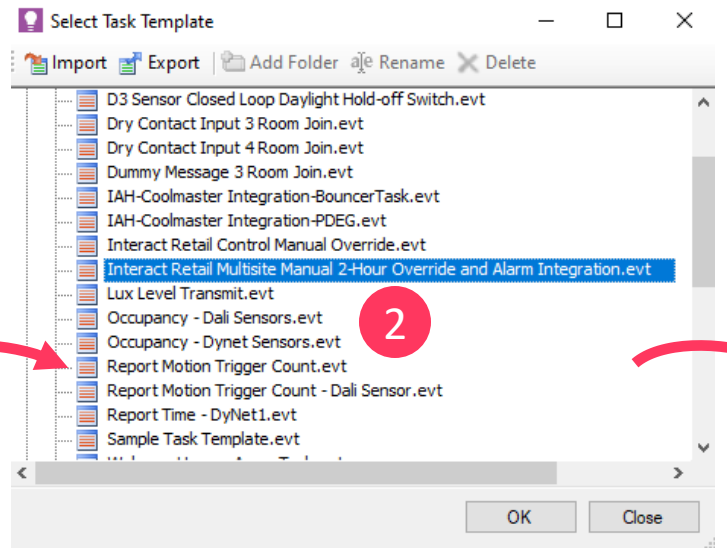
For integration of **Manual Override** and **Alarm**, use dedicated Dynalite program (Task)

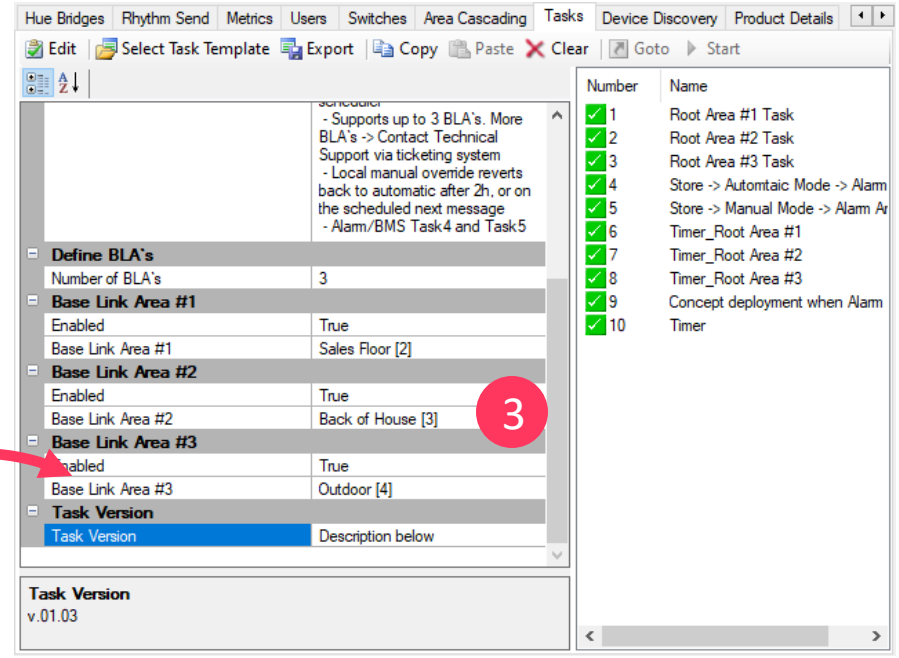
1. On the **Tasks** tab, click **Select Task Template**
2. Select **Multisite Manual 2-Hour Override and Alarm Integration.evt** task. Click **OK**
3. Define **Base Link Areas** to which **Manual Override** feature applies.

Configuration of **BMS** and **Alarm**, must be finalized on the **Dry Contact** device.

More information can be found in the official **Multisite Commissioning Guide**







interact

System Builder | Additional configurations – Alarm Integration

Integrate Alarm, via the Dry Contact Inputs (DDMIDC8)

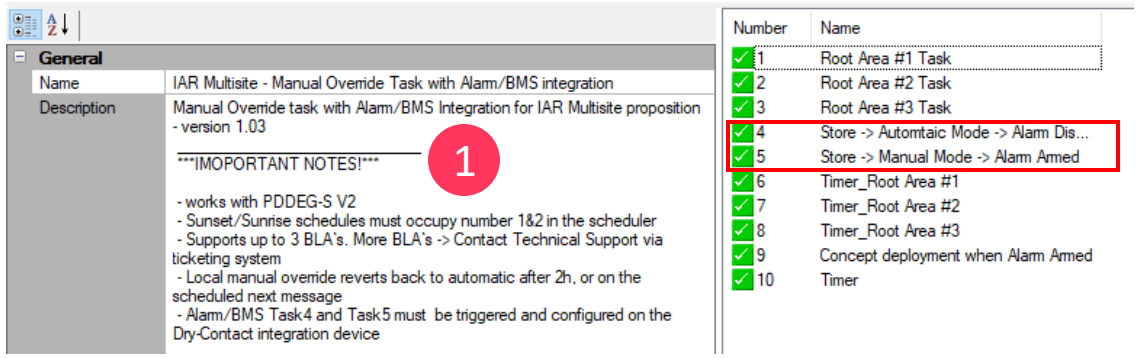
The **Dry Contact** interface, can provide integration with **Alarm systems**.

Specific configuration must be followed, in order to enable this functionality.

To integrate with an external **Alarm system:**

1. Multisite **Manual 2-Hour Override and Alarm Integration** Task must be applied on **PDDEG-S**
2. Dry Contact Input used for the Alarm integration should be configured with a **Custom function,** and **Join Byte 0x85**
3. Configure following **input actions**:

- **Start task 5** on the PDDEG-S device, when the **Alarm** is being **armed**
- **Start Task 4** on the PDDEG-S device, when the **Alarm** is being **disarmed**



General	
Name	IAR Multisite - Manual Override Task with Alarm/BMS integration
Description	Manual Override task with Alarm/BMS Integration for IAR Multisite proposition - version 1.03 ***IMOPORTANT NOTES!*** - works with PDDEG-S V2 - Sunset/Sunrise schedules must occupy number 1&2 in the scheduler - Supports up to 3 BLA's. More BLA's -> Contact Technical Support via ticketing system - Local manual override reverts back to automatic after 2h, or on the scheduled next message - Alarm/BMS Task4 and Task5 must be triggered and configured on the Dry-Contact integration device

1

Number	Name
1	Root Area #1 Task
2	Root Area #2 Task
3	Root Area #3 Task
4	Store -> Automtaic Mode -> Alarm Dis...
5	Store -> Manual Mode -> Alarm Armed
6	Timer_Root Area #1
7	Timer_Root Area #2
8	Timer_Root Area #3
9	Concept deployment when Alarm Armed
10	Timer

General	
Name	Alarm Armed / Disarmed
Switch	Enabled
Logical Address	
Logical Area	Sales Area [2]
Channel	All Channels [0]
Join	85
BLA	Disabled
Advanced	
Enable when panel disabled	False
Trigger at startup	False
Proxy channel index	4
Function	
Function	Custom
Standard function name	No match
Press actions	Preset - Preset: 4, Fade: 00:00:02.000; Task control - Execution type: Start task, Device code: 0xC3, Box number: 1, Task number: 5
Release actions	Preset - Preset: 3, Fade: 00:00:02.000; Task control - Execution type: Start task, Device code: 0xC3, Box number: 1, Task number: 4
Extended press actions	Preset - Preset: 4, Fade: 00:00:02.000; Task control - Execution type: Start task, Device code: 0xC3, Box number: 1, Task number: 5
Extended release actions	Preset - Preset: 3, Fade: 00:00:02.000; Task control - Execution type: Start task, Device code: 0xC3, Box number: 1, Task number: 4

2

Task control | Execution type: Start task, Device code: 0xC3, Box number: 1, Task number: 5

Alarm armed

3

Task control | Execution type: Start task, Device code: 0xC3, Box number: 1, Task number: 4

Alarm disarmed

Advanced

Task control	
Control type	Start task
Device code	Ethernet Gateway Supervisor V2 (0xC3)
Box number	1
Task number	5

Advanced

Task control	
Control type	Start task
Device code	Ethernet Gateway Supervisor V2 (0xC3)
Box number	1
Task number	4

interact

System Builder | Additional configurations – Manual 2-Hour Override

Configure Manual Override on the Dry Contact Inputs (DDMIDC8)

There are some specific configurations on the **User interface**, which need to be applied in order to enable key integrations and features.

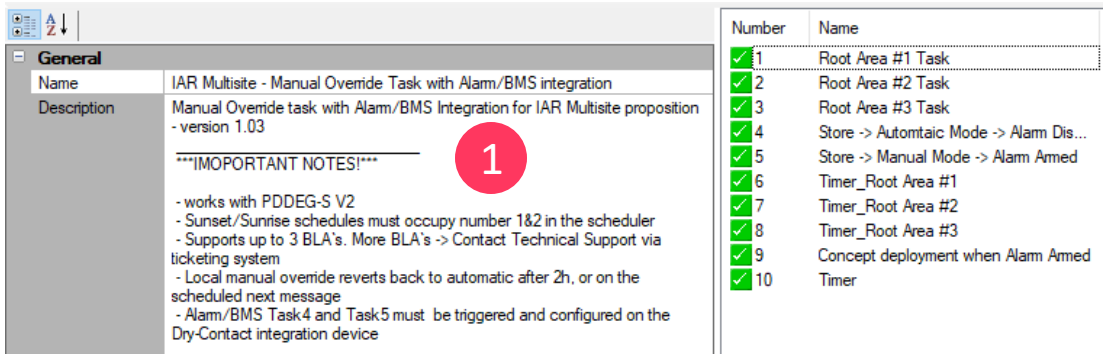
One of these is **Manual 2-Hour Override**, which provides functionality to overrule the scheduled scene with a different preset, for a maximum of two hours.

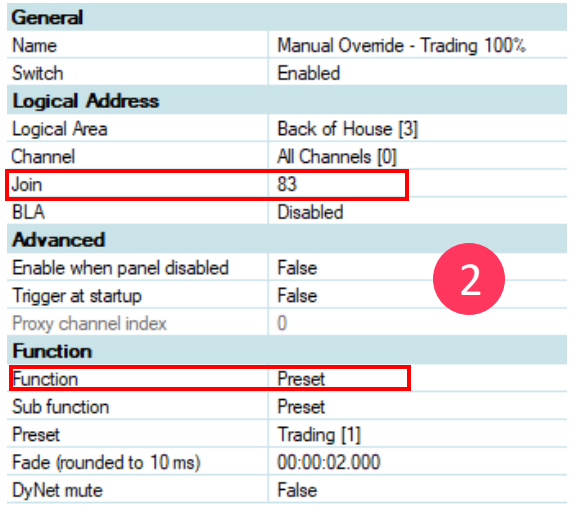
To enable the **Manual 2-Hour Override** feature:

1. Multisite **Manual 2-Hour Override and Alarm Integration** Task must be applied and configured on **PDDEG-S**
2. **Dry Contact Input** used for the **Manual Override**, must be configured with a **Preset** function and a **Join Byte 0x83**

Each **preset** message, with the **join byte of 0x83**, will trigger 2-hour timer.

After 2 hours, system reverts to the previously scheduled scene.





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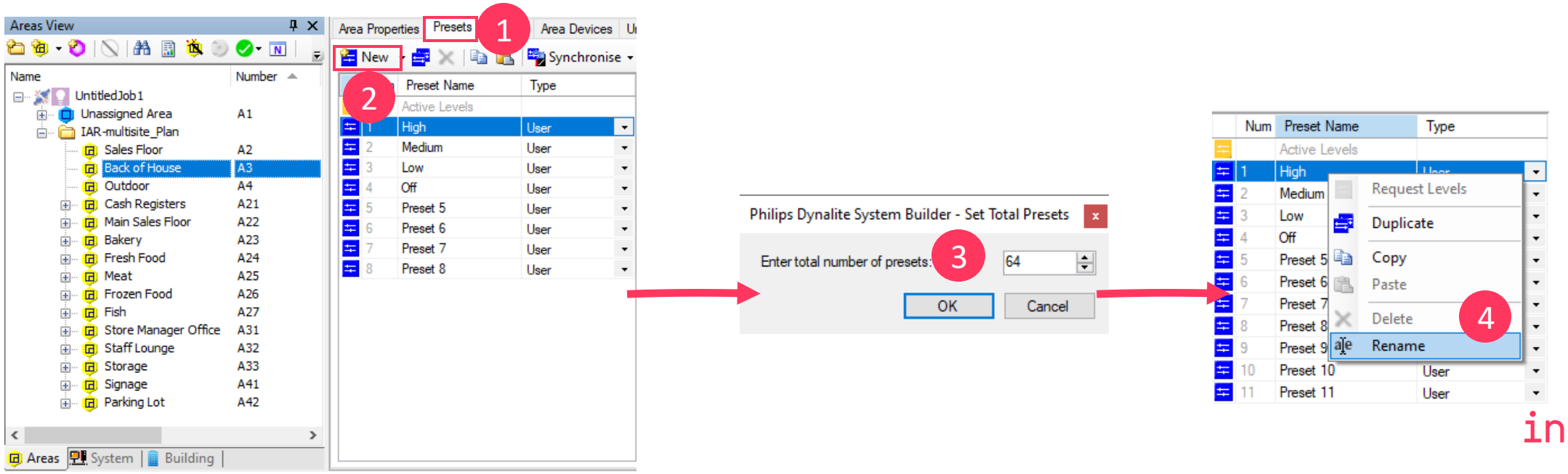
System Builder | Preset placeholders

In order for the customer to recall and create their own Scenes, create empty **Presets** as **placeholders** for new cloud scenes.

1. In the **Areas** view, select **Parent/Child** area. Select the tab **Preset Editor**
2. On the tab Preset Editor, select New and **Set Total Presets**
3. Enter the total number of **64** presets and click **OK**
4. Right-click on the Preset and select **Rename**, to rename the Preset

Remember to do this per Parent Area and all Child Areas assigned to them in System Builder.



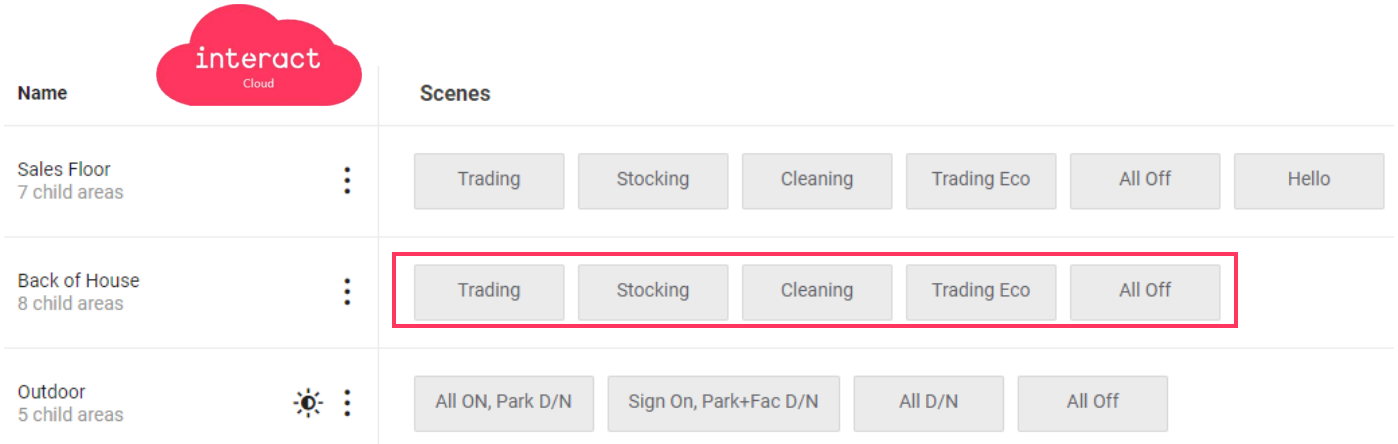
interact

System Builder | Preset names

Align **Preset** names with Scene **names** and **ID** created in the **Interact Cloud.**

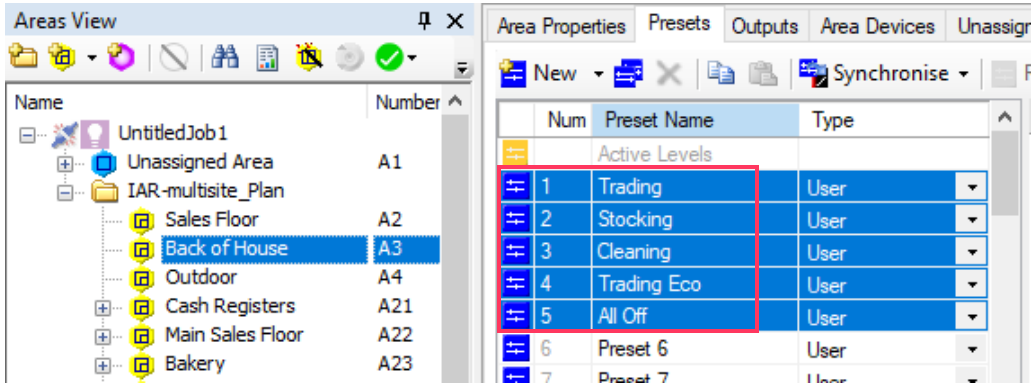
Naming must be consistent with the **Project Template form.**

Repeat for **all Presets** in all **Parent** and **Child** areas.



Project template

Area 1	Area 1 scenes	
Sales Floor #2	Trading #1	All Off #5
Define Child areas and Logical channels on page 7	Stocking #2	Hello #6
	Cleaning #3	
	Trading Eco #4	
Area 2	**Area 2 scenes**	
Back of House #3	Trading #1	All Off #5
Define Child areas and Logical channels on page 11	Stocking #2	
	Cleaning #3	
	Trading Eco #4	



interact

System Builder | Additional configurations – User Interfaces

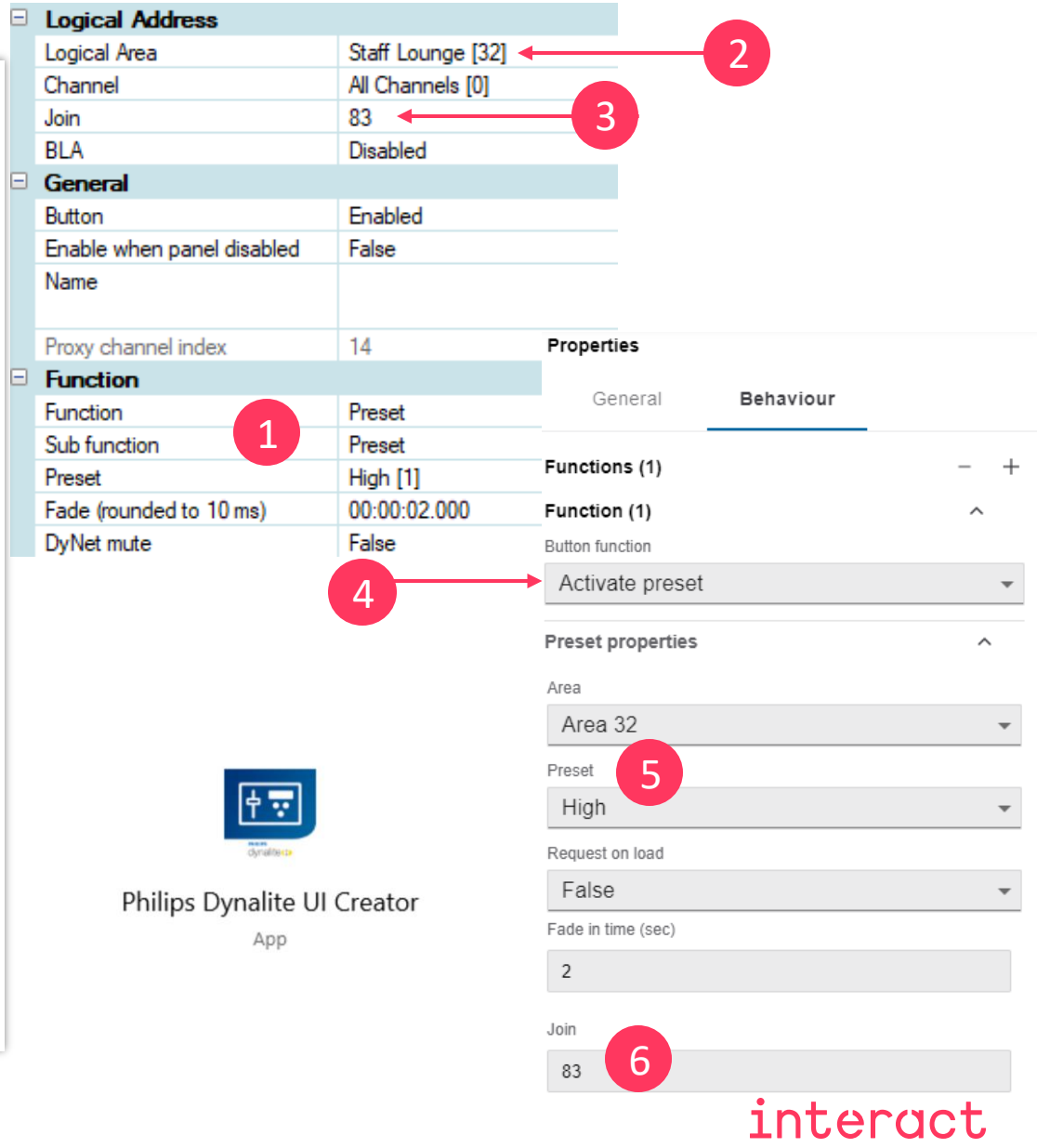
Antumbra and Revolution panels – specific configuration

1. Configure buttons with a preset action
2. Buttons can be configured to control Parent Areas (BLA`s) or Child Areas
3. Configure **Join byte** to **0x83** to enable the **2-hour manual override**, in case corresponding task has been configured on the PDDEG-S gateway

Touch screen – specific configuration

4. Using ***PDTS UI Creator***, configure buttons with an **Activate preset** function
5. PDTS buttons can be configured to control Parent Areas (BLA`s) or Child Areas. For each button define desired Preset
6. Configure **Join byte** to **0x83** to enable the **2-hour manual override**, in case corresponding task has been configured on the PDDEG-S gateway

When upgrading Store Flex (Storewise) system, follow the Technical Notes available on the ***Signify Partner Portal*** *with regards to PDTS or DTP100 configuration.*

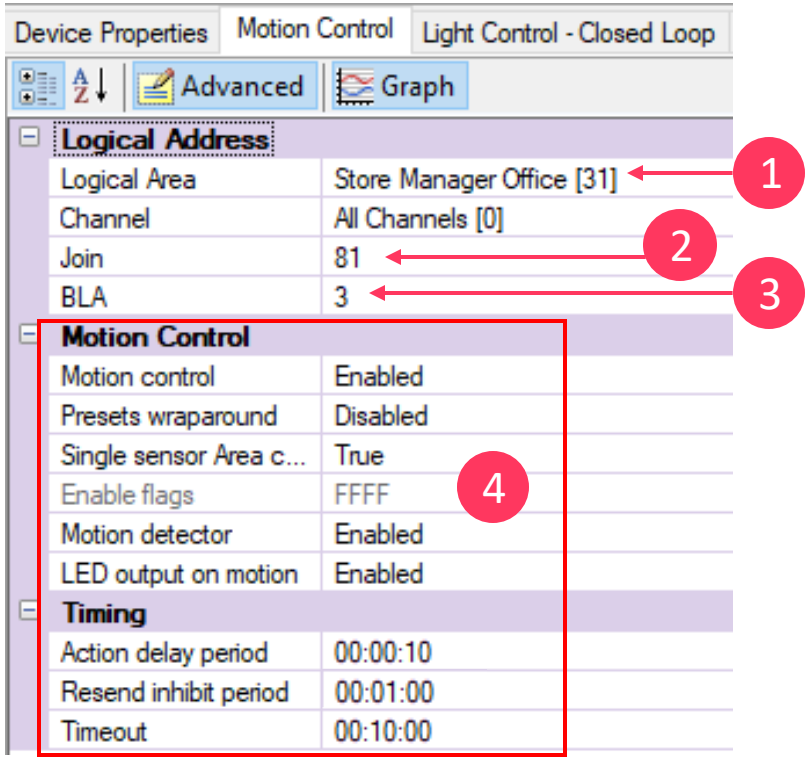


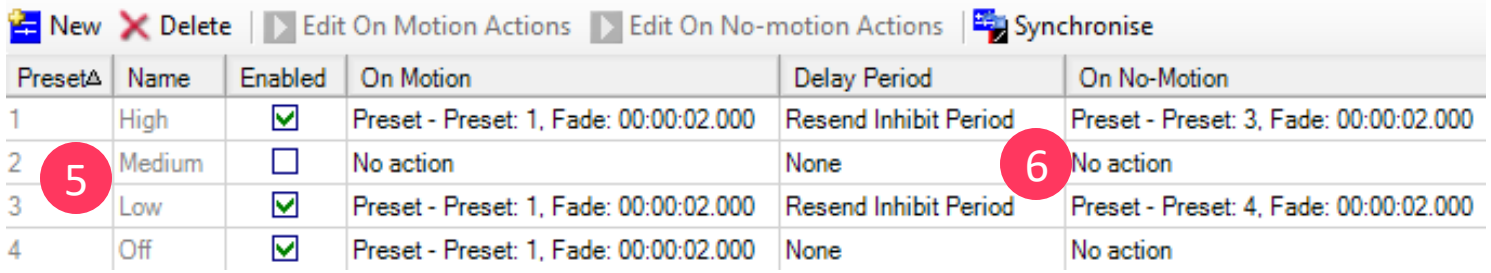
interact

System Builder | Additional configurations – Sensors 1/2

Motion control – specific configuration

1. Specify if the sensor should control a Parent Area (BLA) or a Child Area
2. For **motion control**, configure **Join byte** to **0x81**
3. When configuring the sensor to the Child Area, **set the link** with the correct BLA
4. Modify and configure specific sensor settings, if required.
5. Create the desired number of presets and assign actions
6. **Always use** at least 1 minute **Resend Inhibit Period** to avoid over-flooding the DyNet network



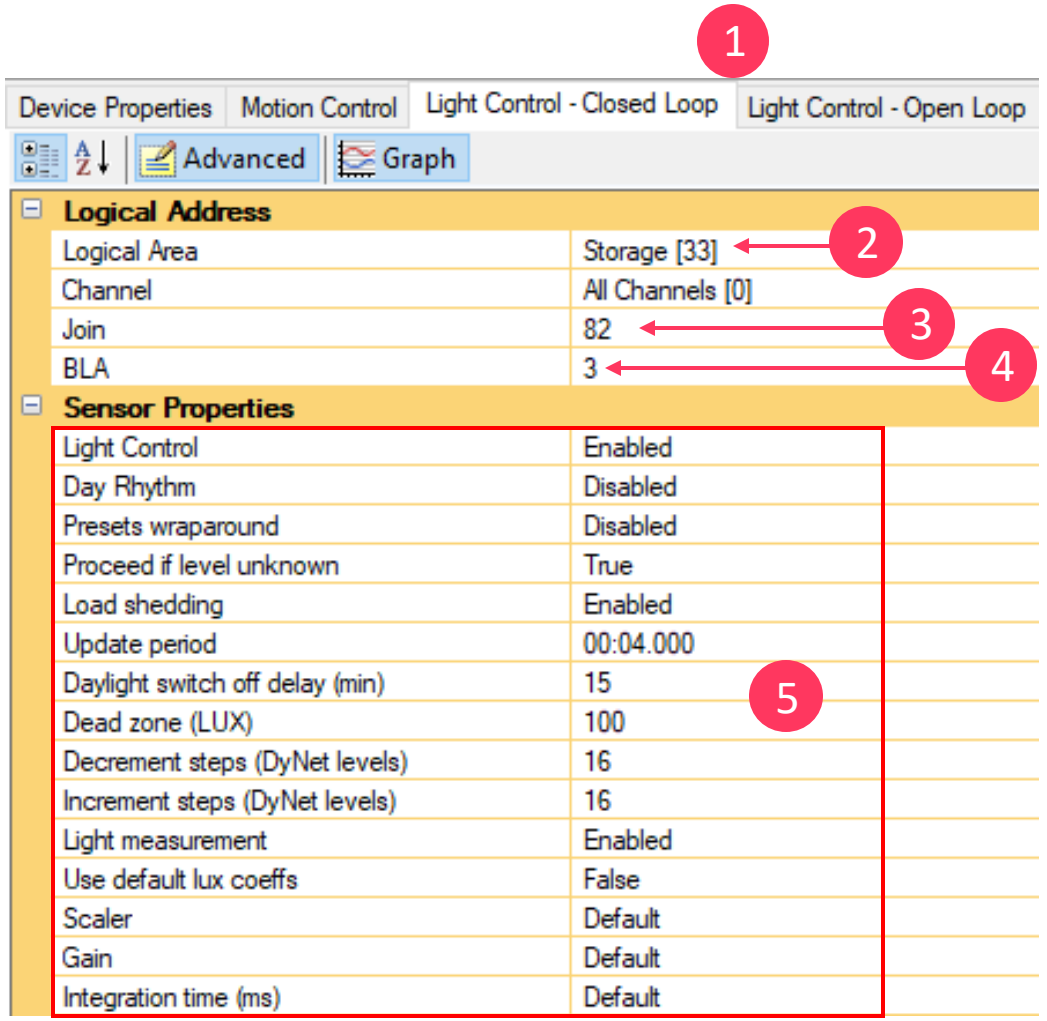


interact

System Builder | Additional configurations – Sensors 2/2

Daylight sensing – specific configuration

1. Select Daylight Harvesting mode: **Closed** or **Open Loop**
2. Specify, if the sensor should control a Parent Area (BLA) or a Child Area
3. Configure **Join byte** to **0x82**
4. When configuring the sensor to the Child Area, **set the link** with the correct BLA
5. Modify and configure specific sensor settings if required
6. Create the desired number of presets (closed loop) or define bands (open loop) with agreed settings



Closed Loop

New Delete Synchronize

Preset	Name	Enable	Target Level (Lux)
1	High [1]	☑	400
2	Medium [2]	☑	400
3	Low [3]	☑	400
4	Off [4]	☑	400

6

Open Loop

New Delete Edit Actions

Band	Low Level (Lux)
0	0
1	1000
2	2000

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System Builder | Additional configurations – unique naming

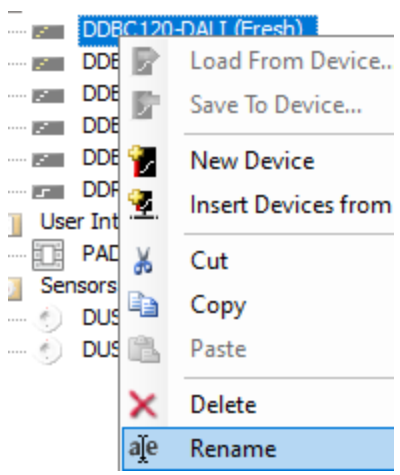
Rename Devices

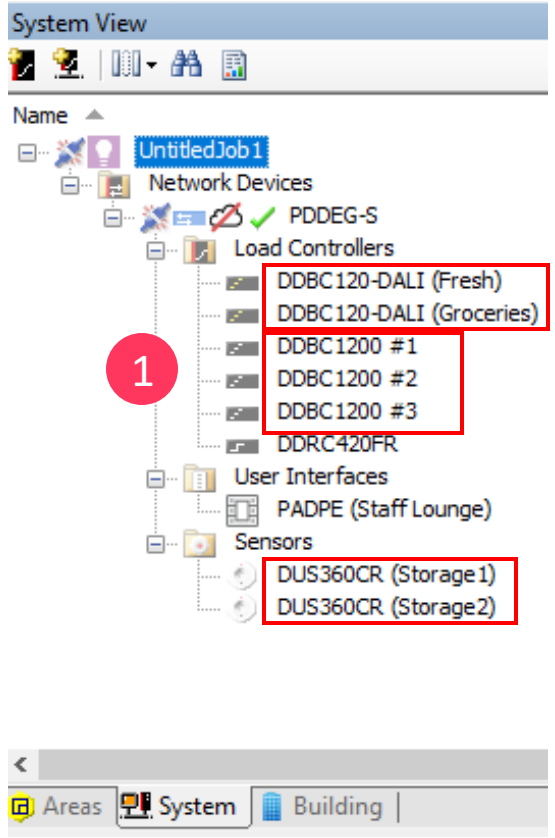
When the same type of device exists multiple times in the system, make sure to **change the name** and **make it unique.**

1. In the **System** view, right-click on the **Device** and select **Rename.**

Assign unique names, for example:

- **3xDDBC1200** → DDBC1200 #1, DDBC1200 #2, DDBC1200 #3
- **2xDUS360CR** → DUS360CR (Storage1), DUS360CR (Storage2)
- **2xDDBC120** → DDBC120-DALI (Fresh), DDBC120-DALI (Groceries)





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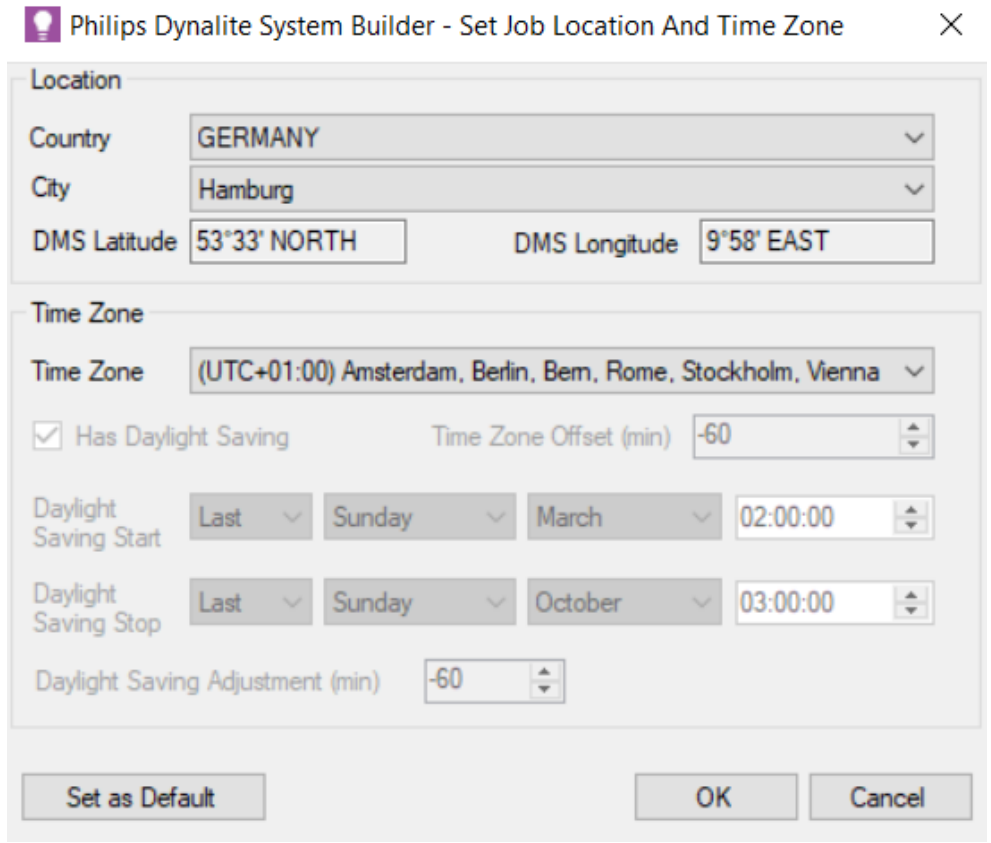
System Builder | Mandatory configuration – Job Time Zone

Last step is to double check that Job file Location and Time Zone match the same settings than the PDDEG-S. For that:

1. Go to Tools from the top bar menu.
2. Select Set Location and Time Zone.
3. Edit the settings if needed to match the project gateway.
4. Click OK to ensure the change applies.



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System Builder | Save job data to the cloud

Login to the cloud

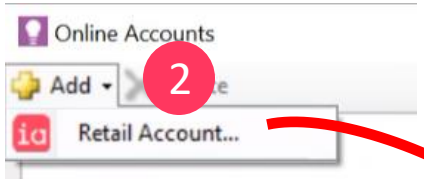
*The **user account** must be registered in **Microsoft Azure Active Directory** before you can login to the Retail Account.*

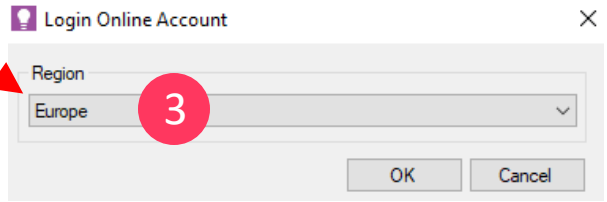
1. On the **Tools** menu, click **Online Accounts**
2. Click **Add**, and select **Retail Account**
3. Select **Europe** as a region, and click **OK**
4. Select your account to login to. If required, fill in your password
5. Account has been linked with Interact cloud

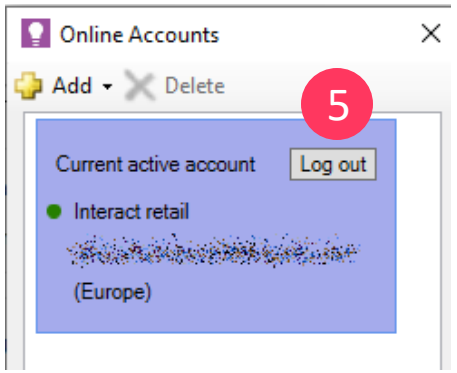
Save job file to the cloud

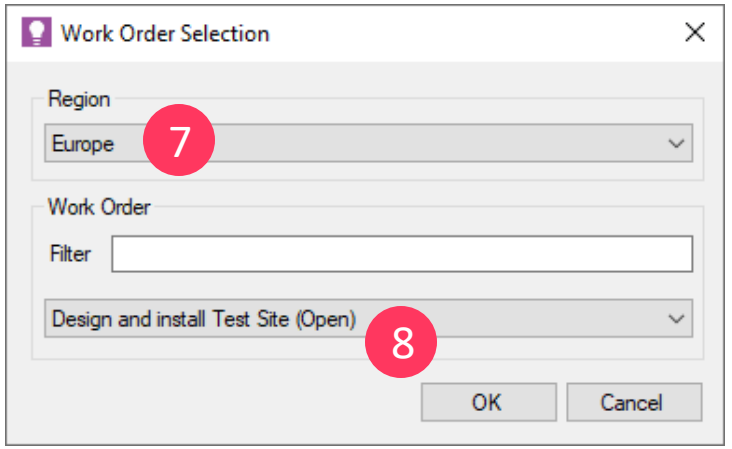
6. On the **File** menu, click **Save As** and select **Save Job To Cloud**
7. In the **Work Order Selection** menu, select the Region: Europe
8. Find and choose applicable work order, then click **OK**

*Wait until the file is successfully saved to the cloud. Confirm this in the **Application** logs*









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Configure metered energy

Architecture FLX - Multisite

Multisite metered energy | Introduction

Configuration of energy metering is only required when smart meters are used to measure energy consumption. Otherwise, this step can be skipped.

Before you start creating the configurations for metered energy, make sure to:

- Obtain and read the most recent documentation of the selected meter
- Make sure that you understand the specifications of the selected meter and how to implement it.
- Always follow the installation manual of the meter; contact the support line of the manufacturer of the meter in case of any questions

Multisite metered energy | Preparation

In order to configure Metered Energy, following components are required:

System Builder

- Latest version, available on Dynalite.com
- **Technician** license → Support.controls@signify.com

Firmware

- PDDEG-S version: 1.23 or higher
- PDEG/PDEB version: 3.58 or higher

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Multisite metered energy | Preparation

Offsite preparation

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.
.

Step A – generic Multisite Offsite System Builder job file preparation

Step B – additional Metered Energy configurations

B1: Modbus RS 485

B2: Modbus IP

Important: to configure **Metered Energy,** Step A **must be accomplished** prior to Step B

2 Prepare System Builder job file

- Start with System Designer mode
- Finalize logical hierarchy
- Set Base Link Areas and channel loads
- Configure PDDEG-S Gateway
- Create preset placeholders
- Configure Manual Override, BMS and Alarm integrations
- Configure controllers, sensors, UI`s
- Configure Job file time zone
- **Save job file to the Cloud and close it.**

A

Metered Energy configurations

Modbus RS485 (RTU)

- **Open job file from the Cloud**
- Additional PDDEG-S configurations
- Add and configure Modbus Meters
- Add and configure PDEG/PDEB/DDNG485
- Save job file to the Cloud

B1

or

Modbus IP (TCP)

- **Open job file from the Cloud**
- Add and configure Modbus Meters
- Configure PDDEG-S
- Save job file to the Cloud

B2

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Configure Modbus RS485 metering with PDEB/PDEG

Architecture FLX - Multisite

Metered energy - Modbus RS485 | Additional PDDEG-S configurations

Ensure System Builder job file is closed before running these steps:

1. **Open Job file from the Cloud**.
2. In the **System View**, click on **PDDEG-S**.
3. On the **Ports** tab, change the setting **Use static IP address** to **True**. Specify static IP address, Subnet mask and network Gateway IP address.
4. On the **Ports** tab, create an additional IPv4 Server Port, configured as shown on the picture.
5. Ensure all routs are configured in the **Routing** tab.

IPv4	
IPv4 ports	Enabled
Use static IP address	True
IP Address	192.168.1.20
Gateway	192.168.1.1
Subnet mask	255.255.255.0
DNS server	8.8.8.8

3

Port	Type, Index	Connection	Description
Comm Port 1	1, 1	Spur	Baudrate: 9600
IPv4 Port 1	2, 1	Spur	TCP Server, Port: 50000
Web Socket 1 /...	5, 1	Trunk	

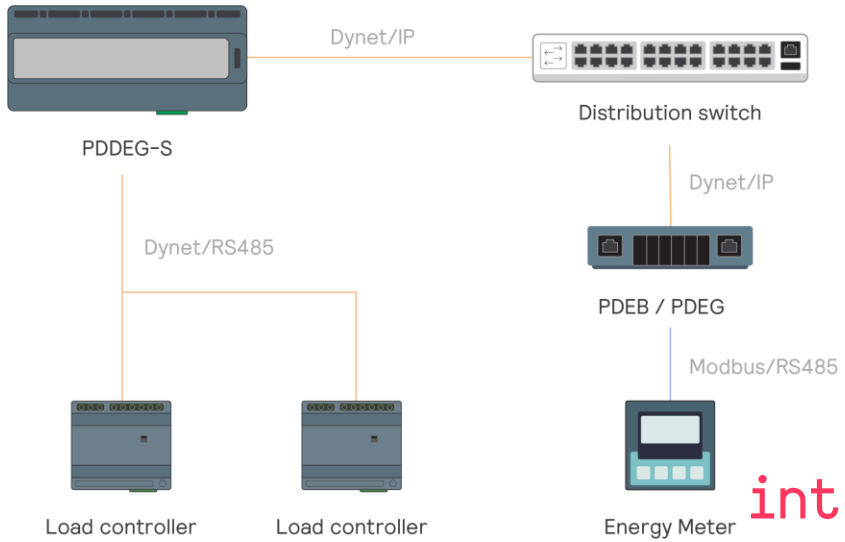
Port	
Port type	DyNet2
Mode	Server
Port Number	50000
Protocol	TCP
Flags	
Secure port	False
Connection	Spur
Area zero transmit	Disabled
Sign on at start up	Enabled

4

New Routing | Delete Routing | Copy | Paste | Route RS-485 and Default Multicast Service

Enable	From	To	Filters
☑	IPv4 Port 1, Spur, TCP Server, Port: 50000	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Web Socket Port 1 / Cloud Connection , Trunk	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	Internal Messages	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Internal Messages	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	IPv4 Port 1, Spur, TCP Server, Port: 50000	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	Metrics Collection	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Internal Messages	Comm Port 1, Spur	No filter
☑	Comm Port 1, Spur	Web Socket Port 1 / Cloud Connection , Trunk	No filter
☑	Web Socket Port 1 / Cloud Connection , Trunk	Comm Port 1, Spur	No filter
☑	Metrics Collection	IPv4 Port 1, Spur, TCP Server, Port: 50000	No filter
☑	Metrics Collection	Comm Port 1, Spur	No filter

5

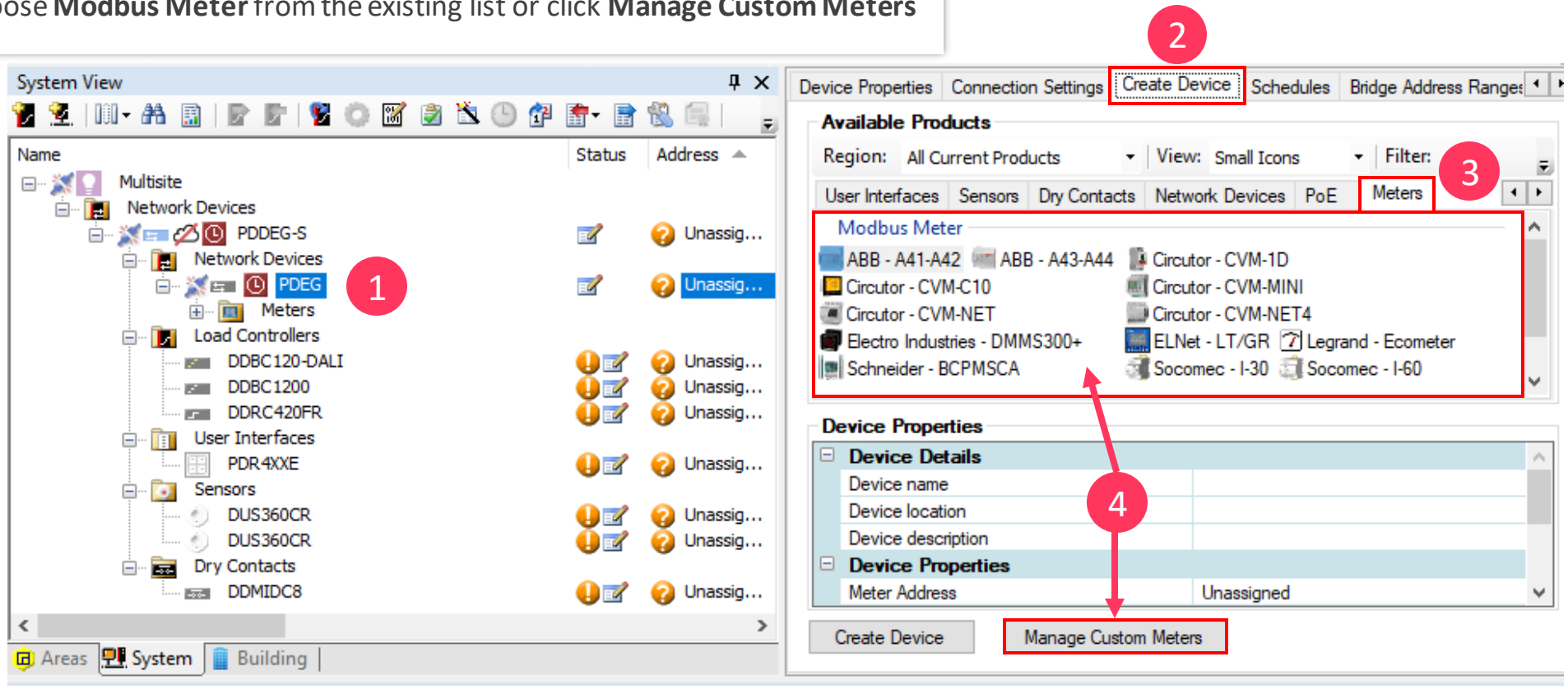


interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

To add Modbus meters:

1. In the **System** view, add **PDEG/PDEB** device under **PDDEG-S,** and click on it.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Choose **Modbus Meter** from the existing list or click **Manage Custom Meters**



interact

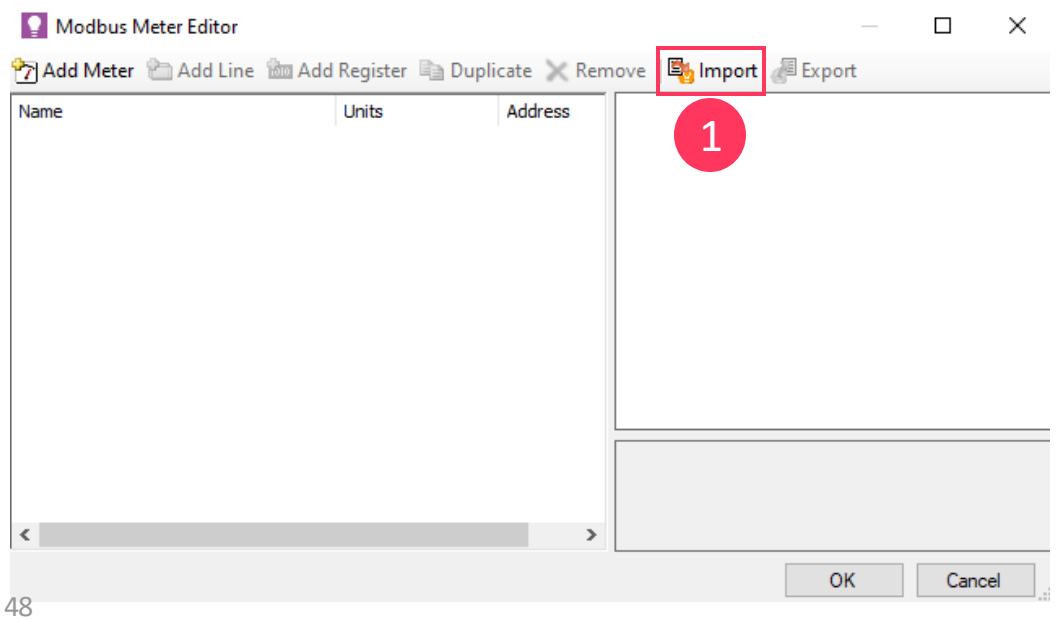
Metered energy - Modbus RS485 | Add and configure Modbus meters

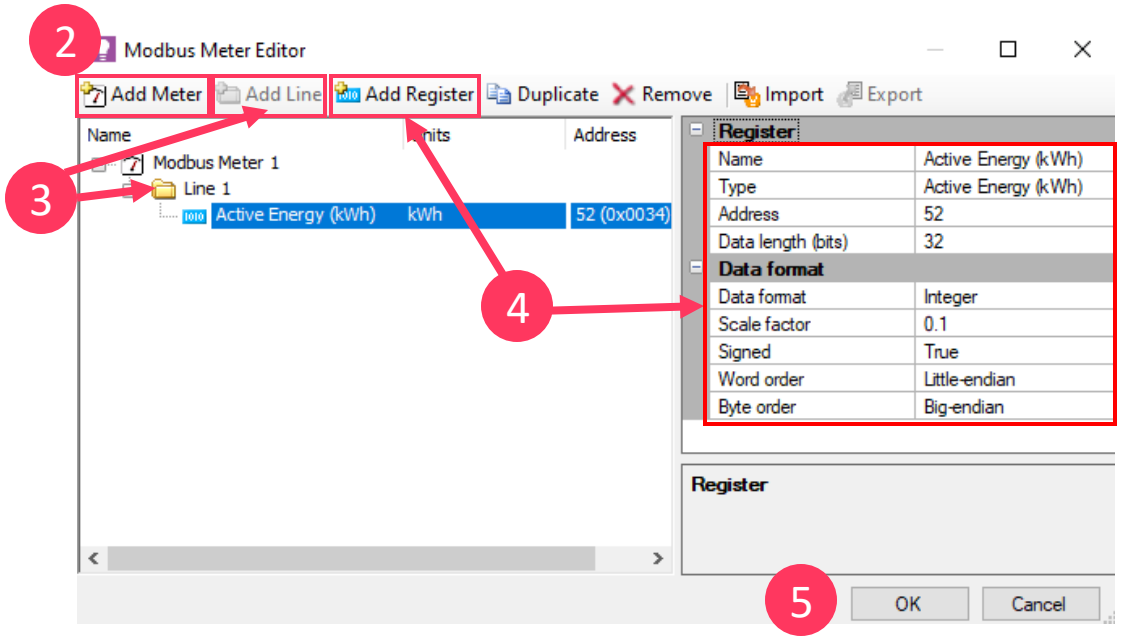
When selected **Manage Custom Meters** :

1. Click **Import**, to load Modbus meter from the external *.mmx file, for example → Carel MT300W3200.mmx

or,

2. Click **Add Meter**.
3. Create a **Line**.
4. **Add Register** and configure as an **Active Energy** register, according to Modbus Meter technical documentation.
5. Click **OK**.





interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

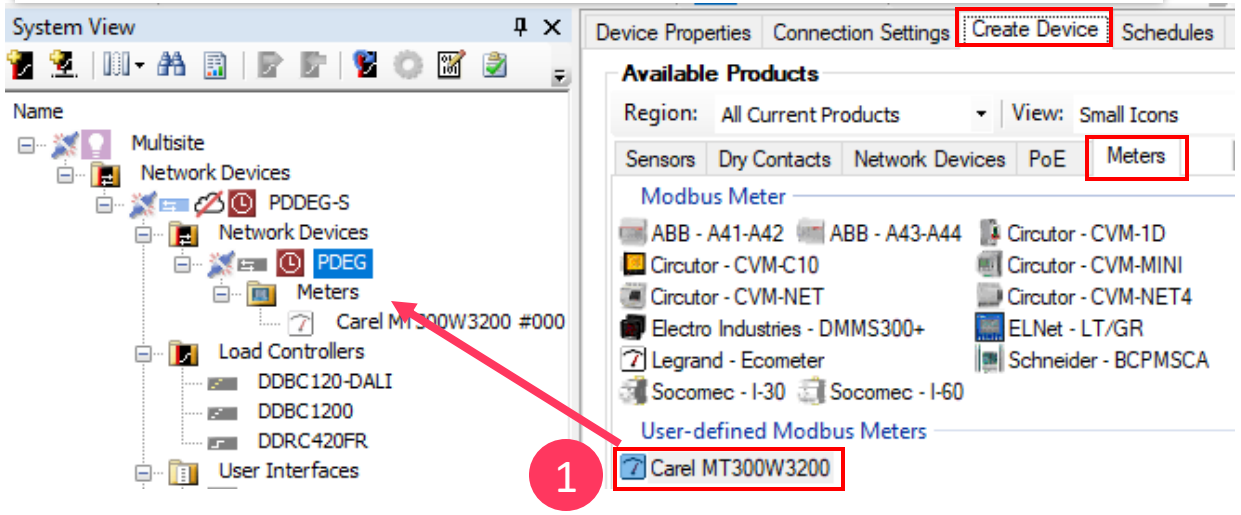
Custom meter will appear on **Meters** list (PDEG --> *Create Device* tab)

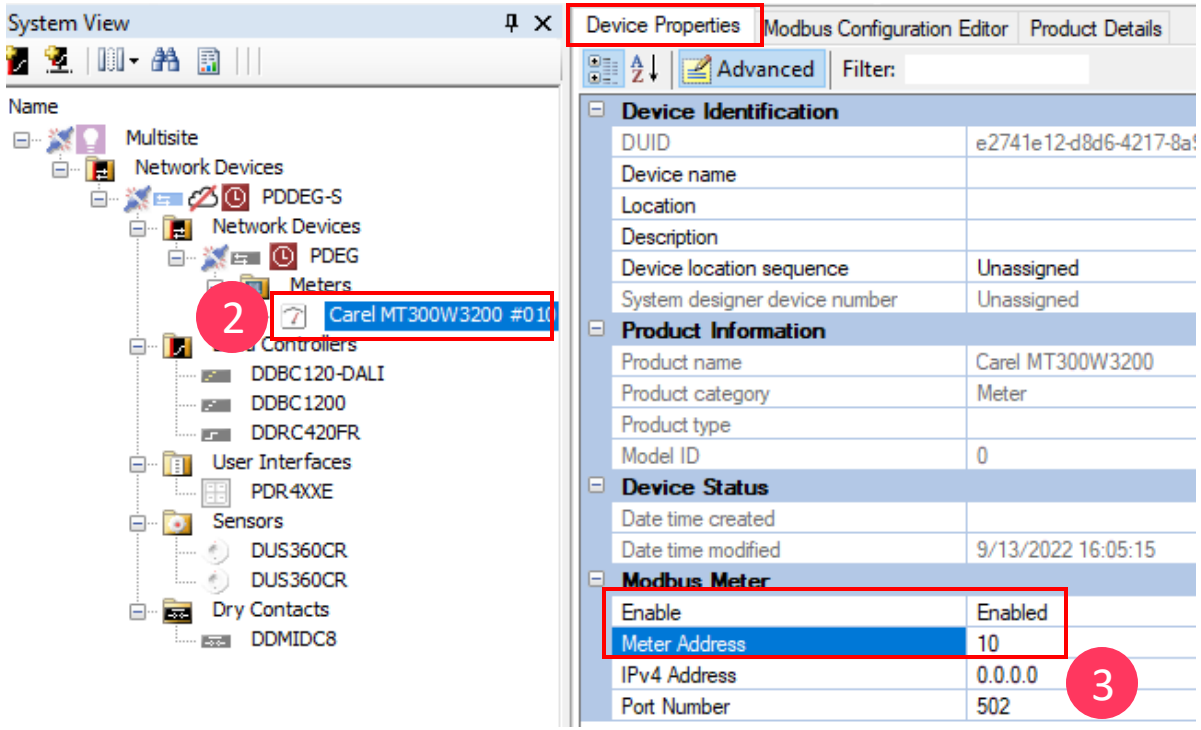
1. **Drag & Drop** Custom Meter under **PDEG/PDEB**.

<u>From now onwards, all the steps are relevant for Modbus meters added from SB list or created as Custom Meters</u>

2. **Click** on the Modbus Meter.

3 On the **Device Properties** tab, specify **Meter Address** and ensure meter is **Enabled**.



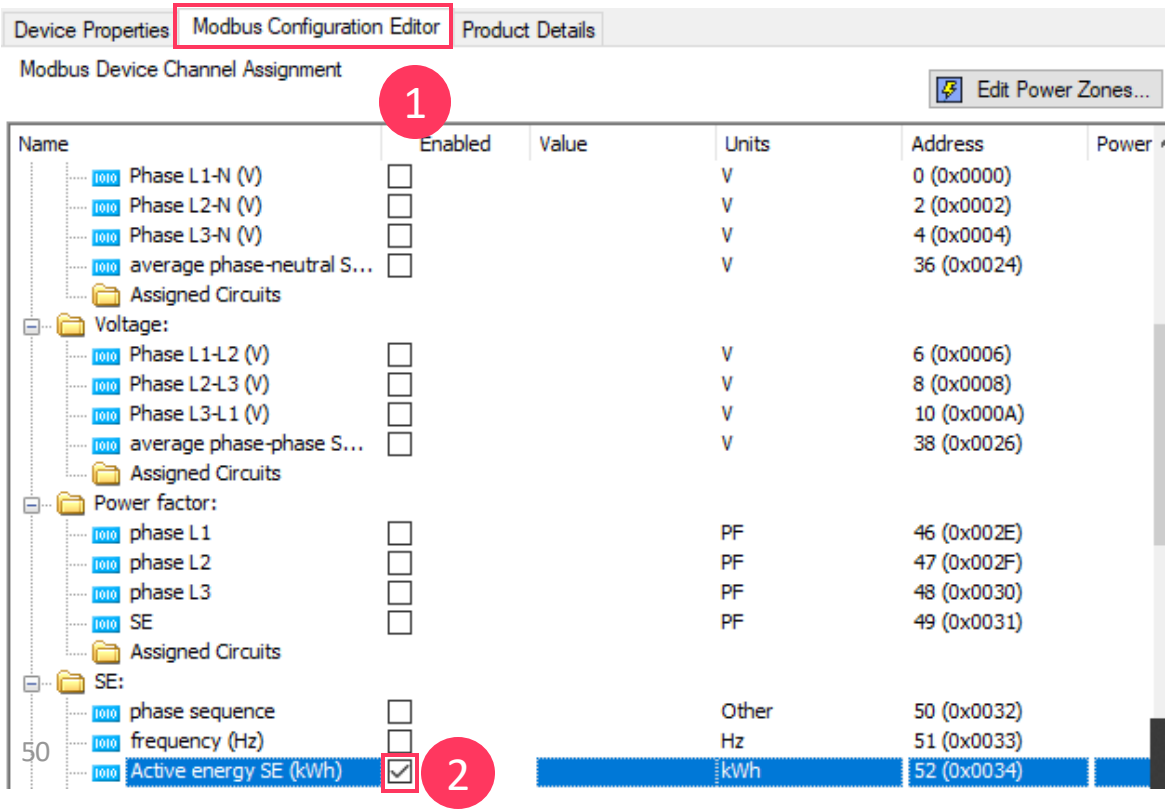


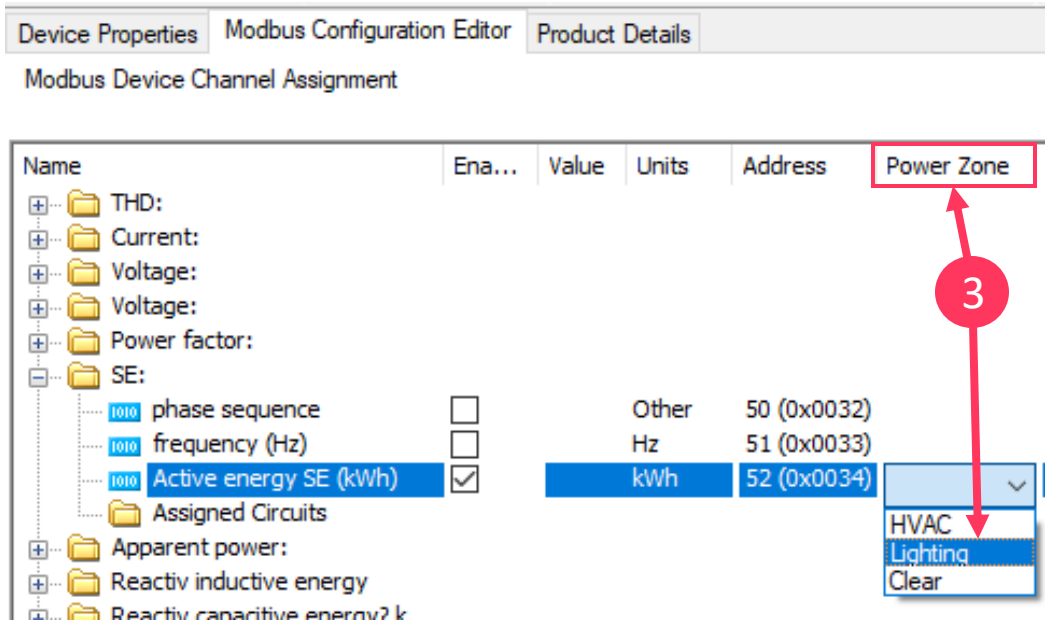
interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

Having selected Modbus meter in the System view:

1. Go to **Modbus Configuration Editor** tab.
2. **Enable** an **Active Energy** register.
3. In a **Power Zone** column, assign desired **Power Zone** to the **Active Energy** register.





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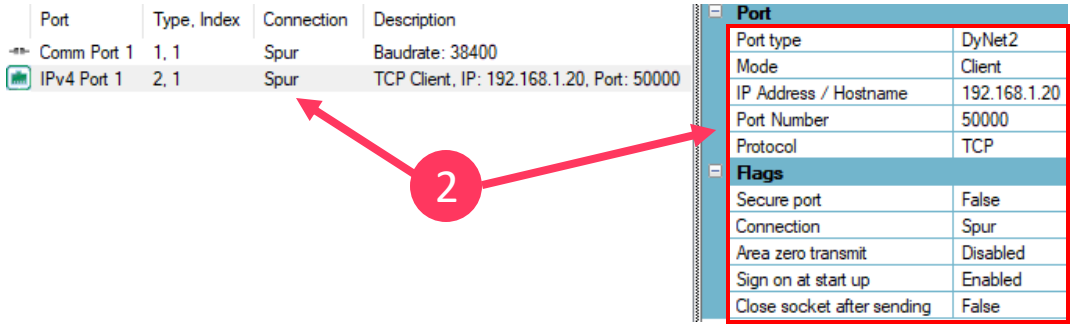
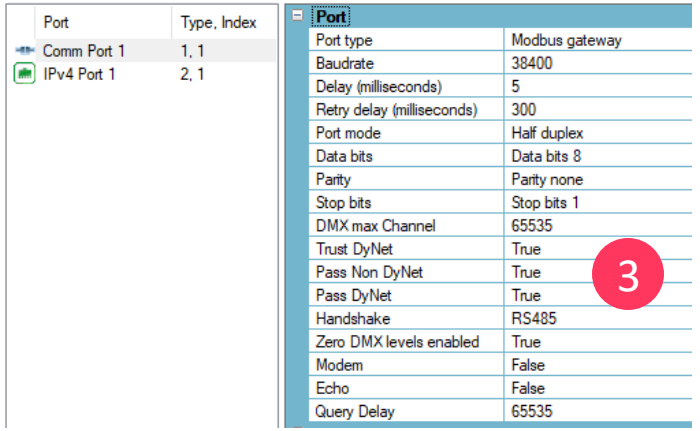
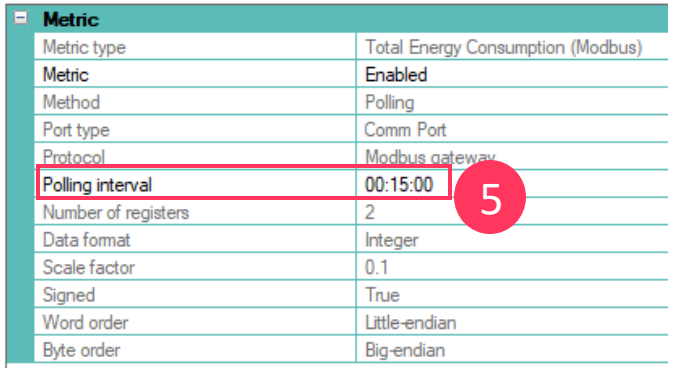
Metered energy - Modbus RS485 | Add and configure PDEG/PDEB

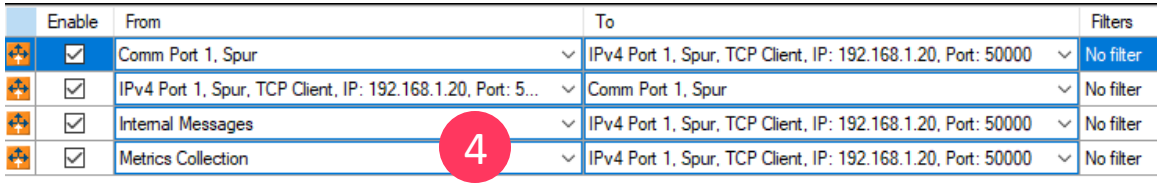
In order to configure **PDEG/PDEB** as a Modbus gateway:

1. Configure **PDEG/PDEB** IP address, Gateway and Subnet. PDEG must belongs to the same network as PDDEG-S.
2. On the **Ports** tab, create an additional **IPv4 Client** Port, indicating PDDEG-S IP address as a **Hostname**. Apply all shown settings.
3. On the **Ports** tab, configure **Comm Port 1** as **a Modbus Gateway** type. Apply all indicated settings.
4. Cross check routing setting on the **Routing** tab.
5. On the **Metrics** tab, ensure **Total Energy Consumption** metric **Polling Interval** is set to **15** minutes.









interact

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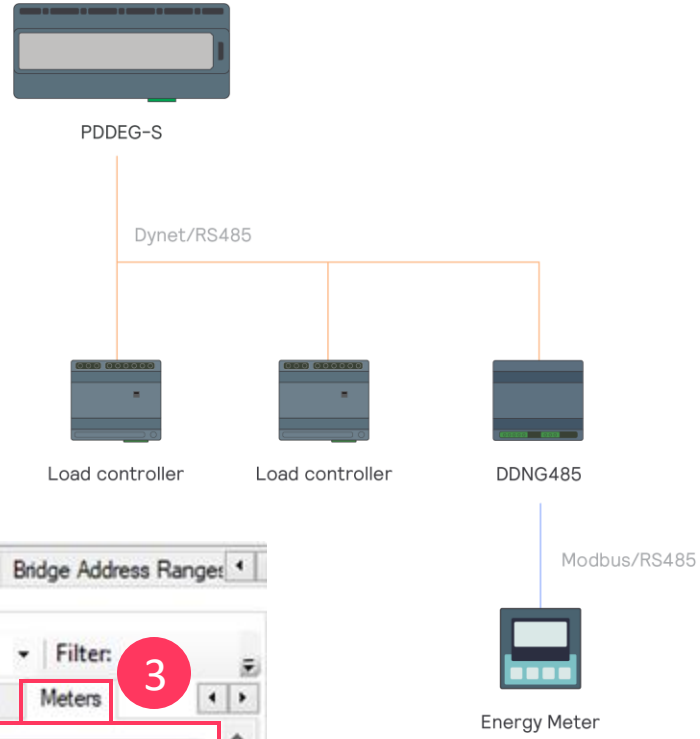
Configure Modbus RS485 metering with DDNG485

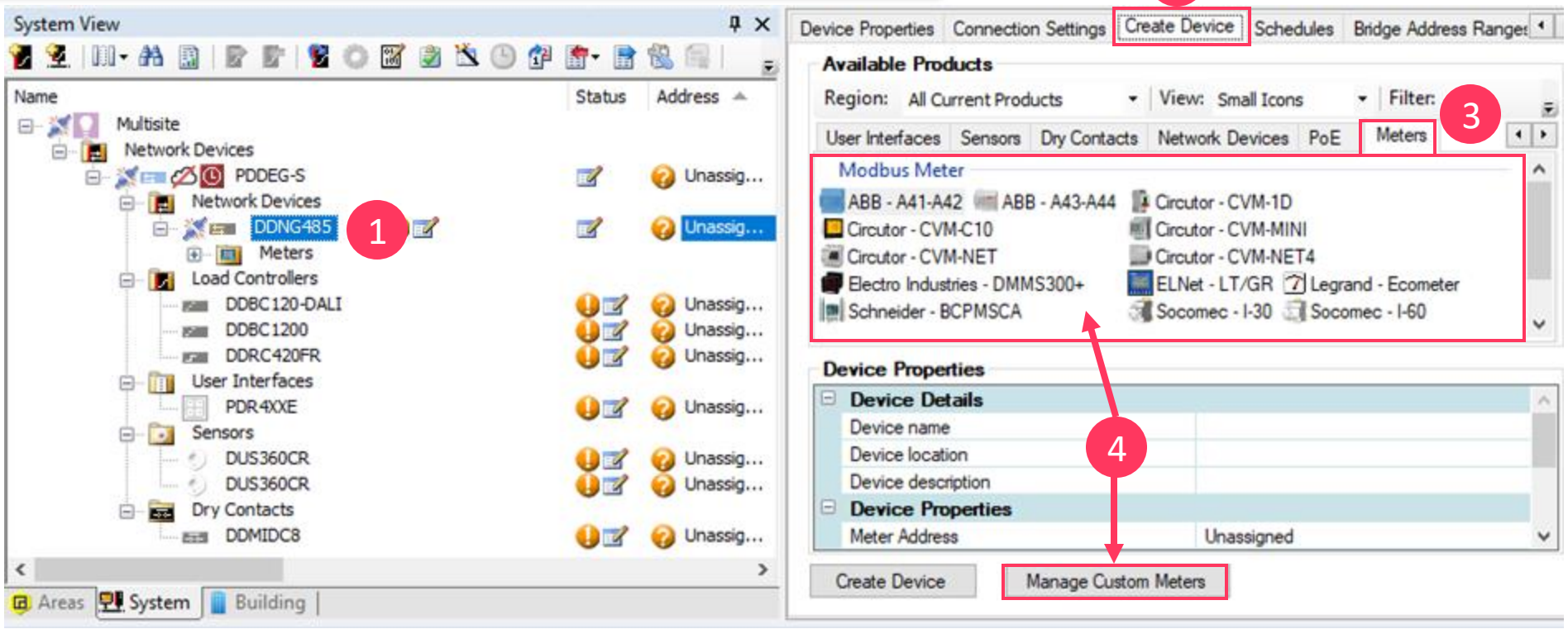
Architecture FLX - Multisite

Metered energy - Modbus RS485 | Add and configure Modbus meters

To add Modbus meters:

1. In the **System** view, add new **DDNG485** device under **PDDEG-S,** and click on it.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Choose **Modbus Meter** from the existing list or click **Manage Custom Meters**





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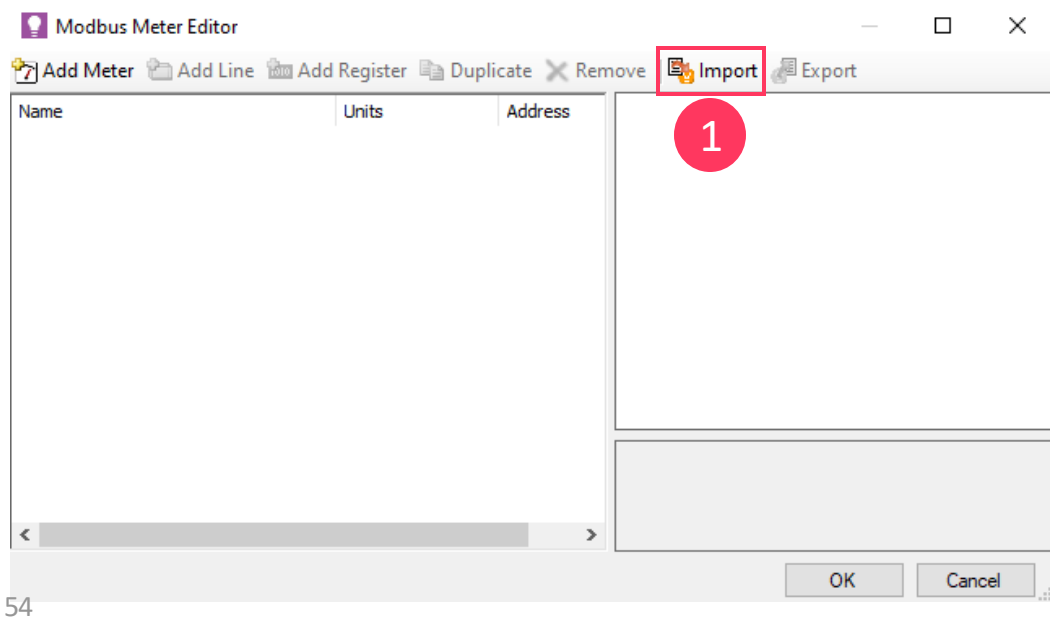
Metered energy - Modbus RS485 | Add and configure Modbus meters

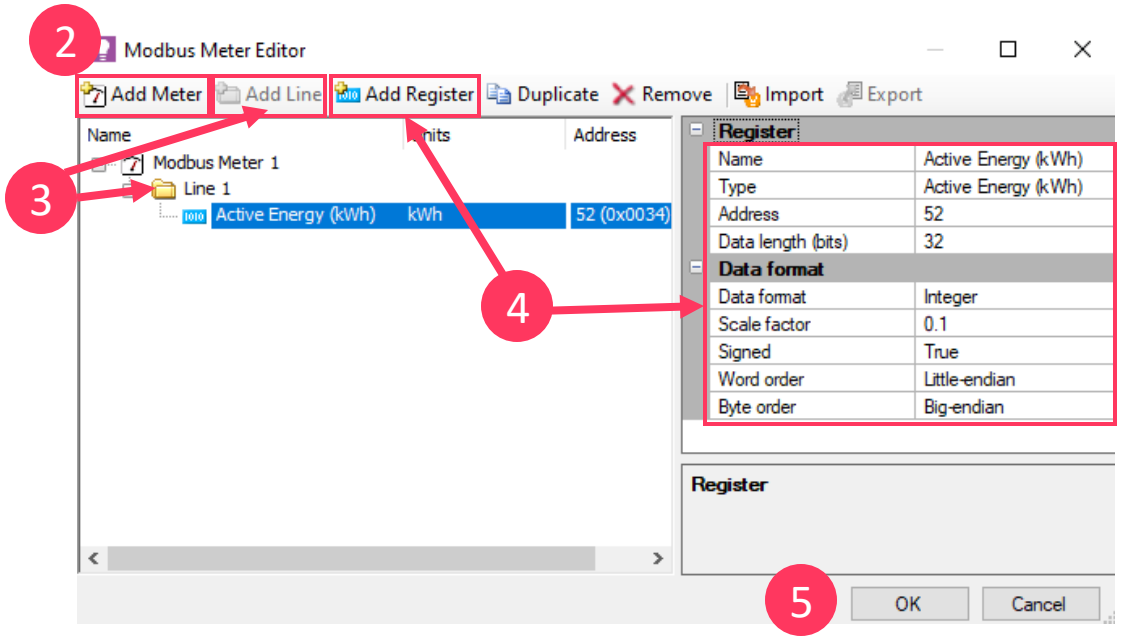
When selected **Manage Custom Meters** :

1. Click **Import**, to load Modbus from the external *.mmx file, for example → Carel MT300W3200.mmx

or,

2. Click **Add Meter**.
3. Create a **Line**.
4. **Add Register** and configure an **Active Energy** register, according to Modbus Meter technical documentation.
5. Click **OK**.





interact

Metered energy - Modbus RS485 | Add and configure Modbus meters

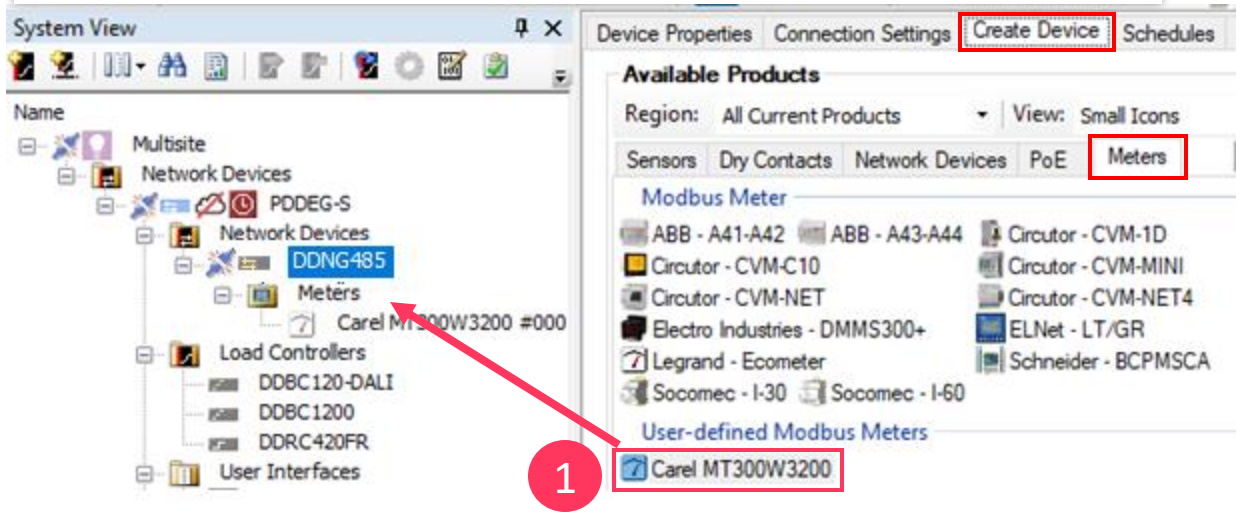
Custom meter will appear on **Meters** list (DDNG485 --> *Create Device* tab)

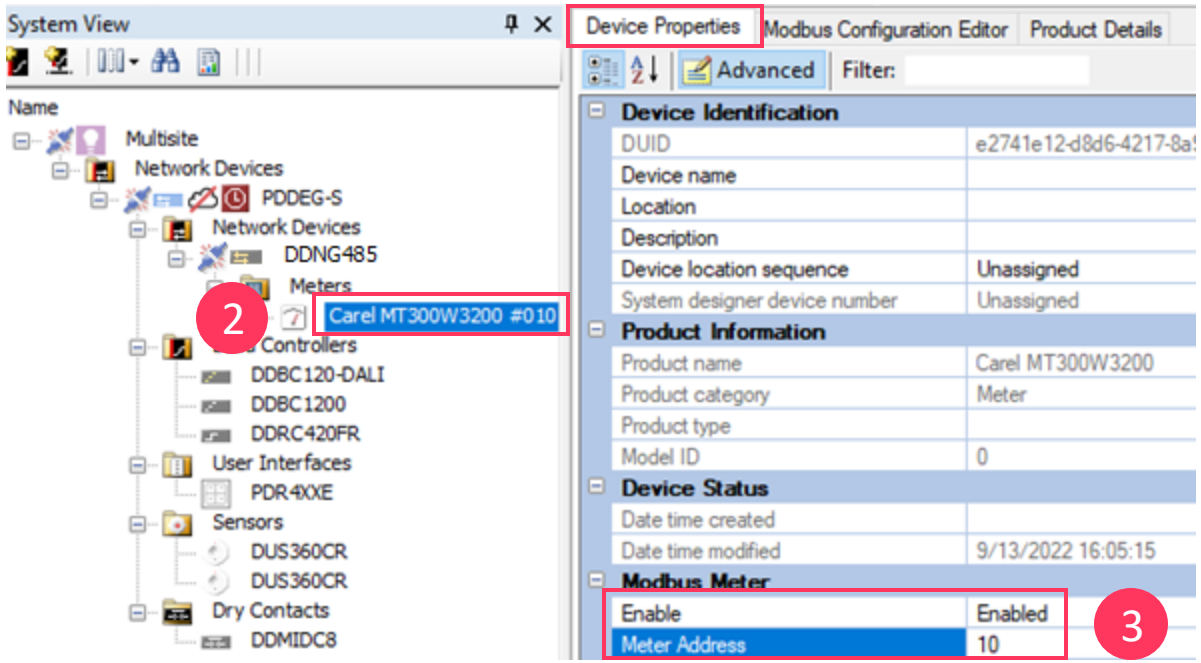
1. **Drag & Drop** Custom Meter under **DDNG485**.

<u>From now onwards, all the steps are relevant for Modbus meters added from SB list or created as Custom Meters</u>

2. **Click** on the Modbus Meter.

3 On the **Device Properties** tab, specify **Meter Address** and ensure meter is **Enabled**.





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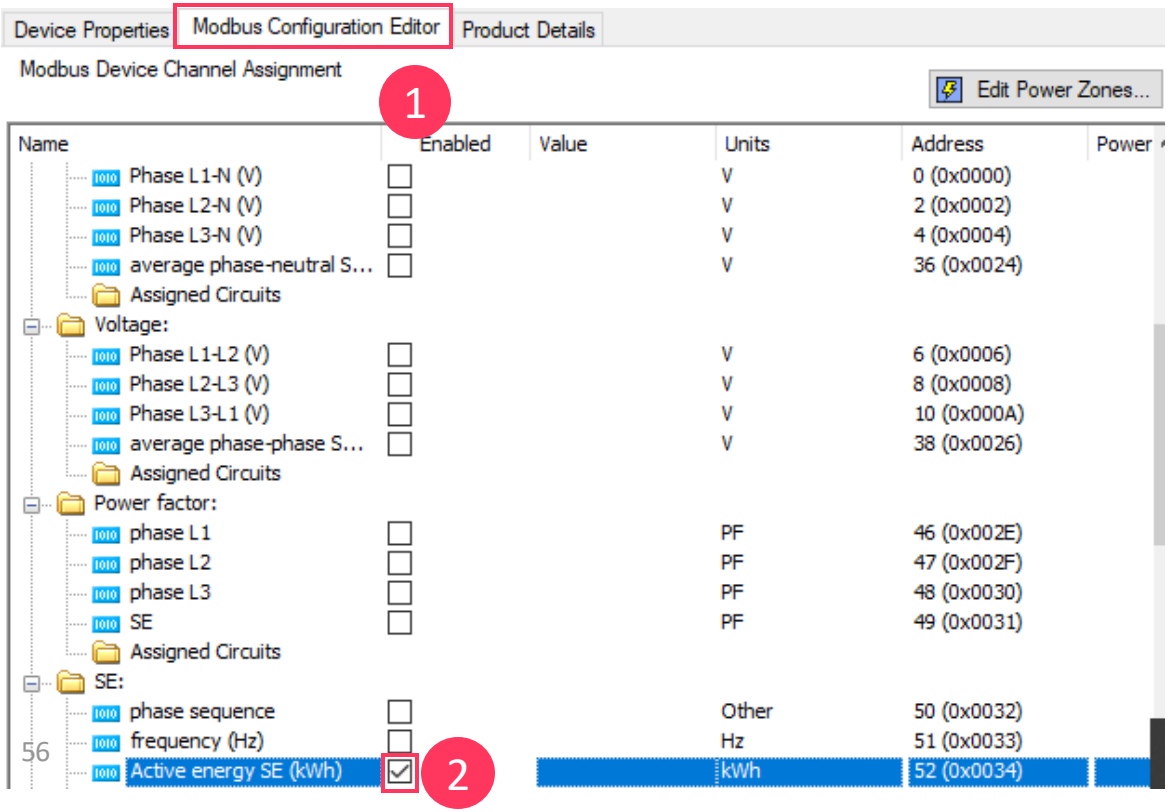
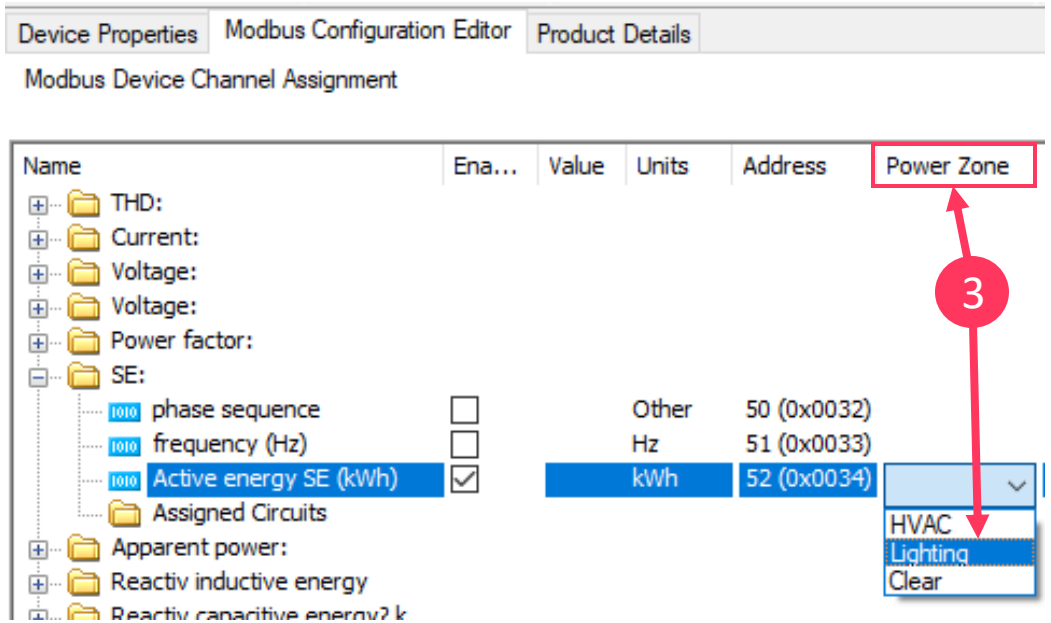
Metered energy - Modbus RS485 | Add and configure Modbus meters

Having selected Modbus meter in the System view:

1. Go to **Modbus Configuration Editor** tab.
2. **Enable** an **Active Energy** register.
3. In a **Power Zone** column, assign desired **Power Zone** to the **Active Energy** register.





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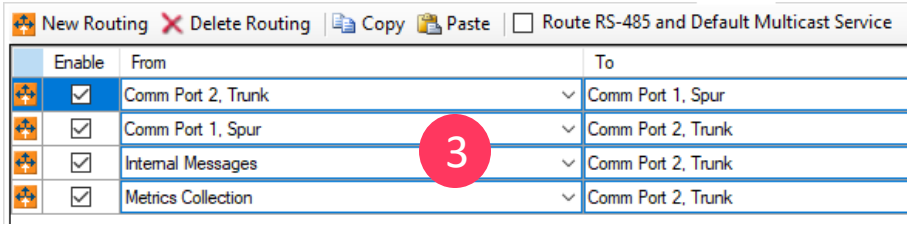
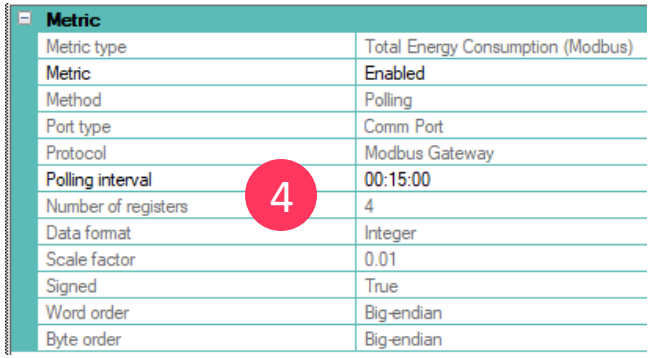
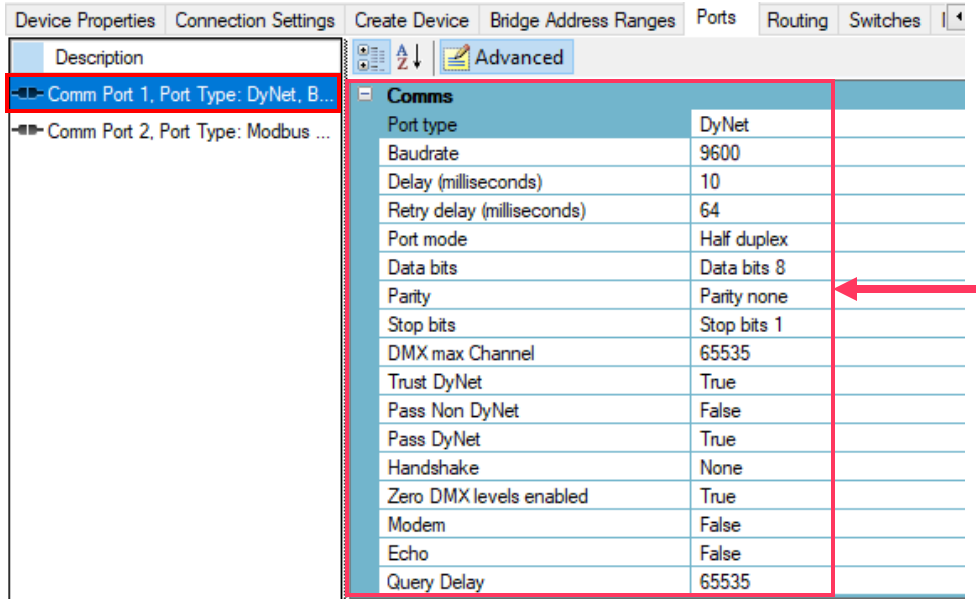
Metered energy - Modbus RS485 | Additional DDNG485 configurations

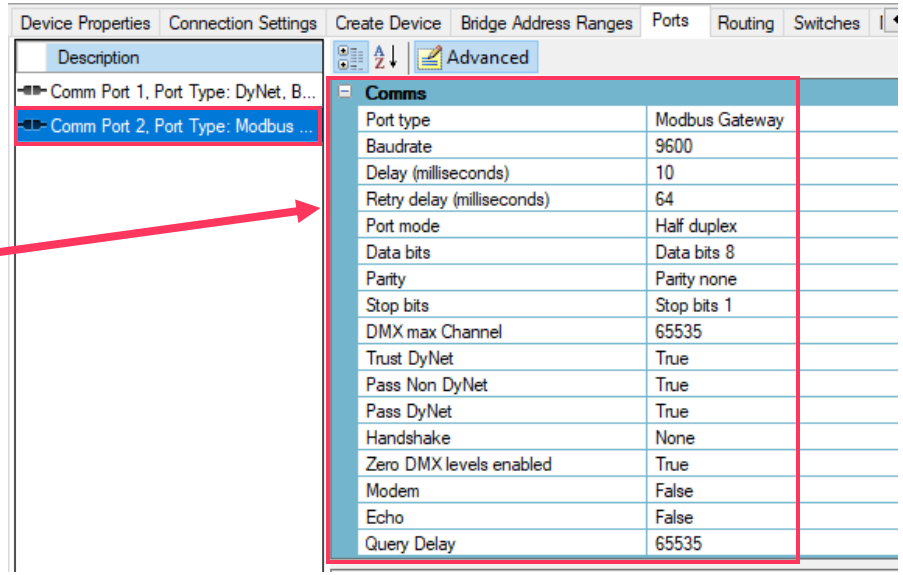
In order to finalize **DDNG485** configuration as a Modbus gateway:

1. In the **System** view select **DDNG485.**
2. Verify **Comm Port1** and **Com Port 2** configurations.
3. Cross check routing setting on the **Routing** tab.
4. On the **Metrics** tab, ensure **Total Energy Consumption** metric **Polling Interval** is set to **15** minutes.









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Configure Modbus IP metering

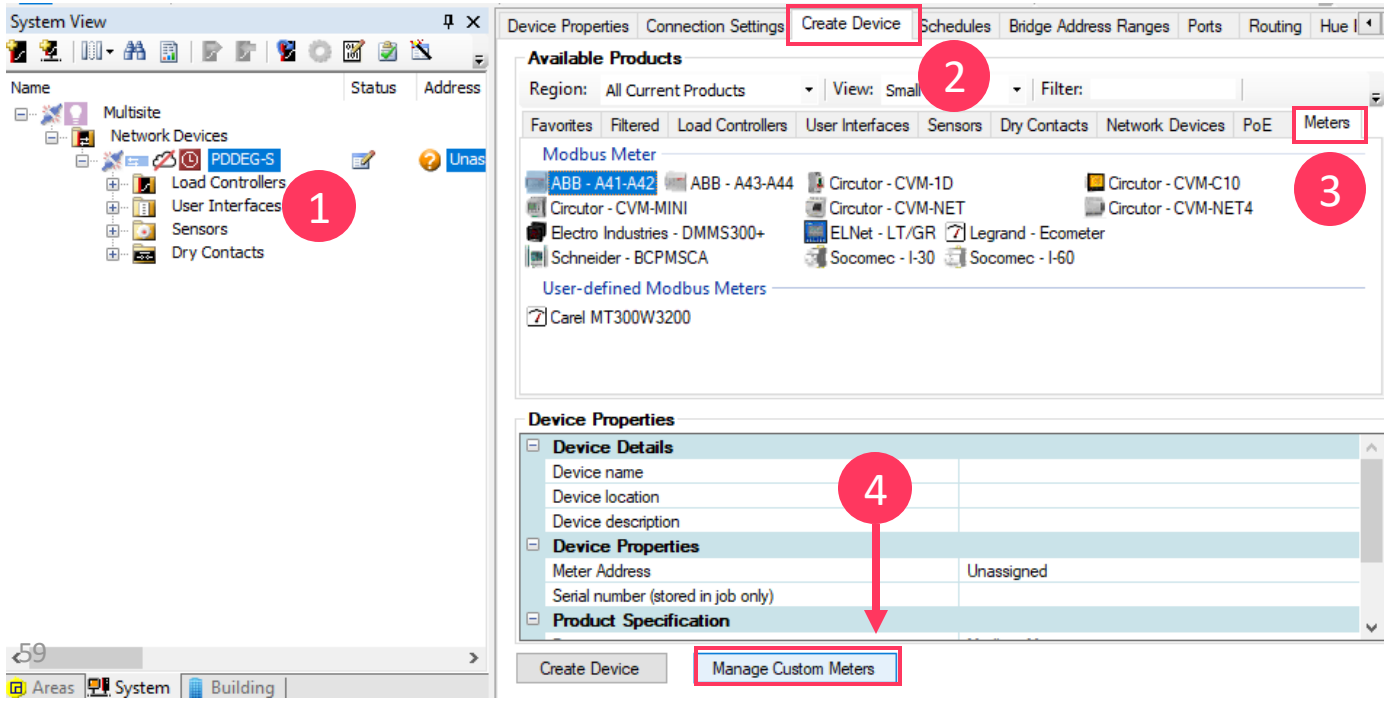
Architecture FLX - Multisite

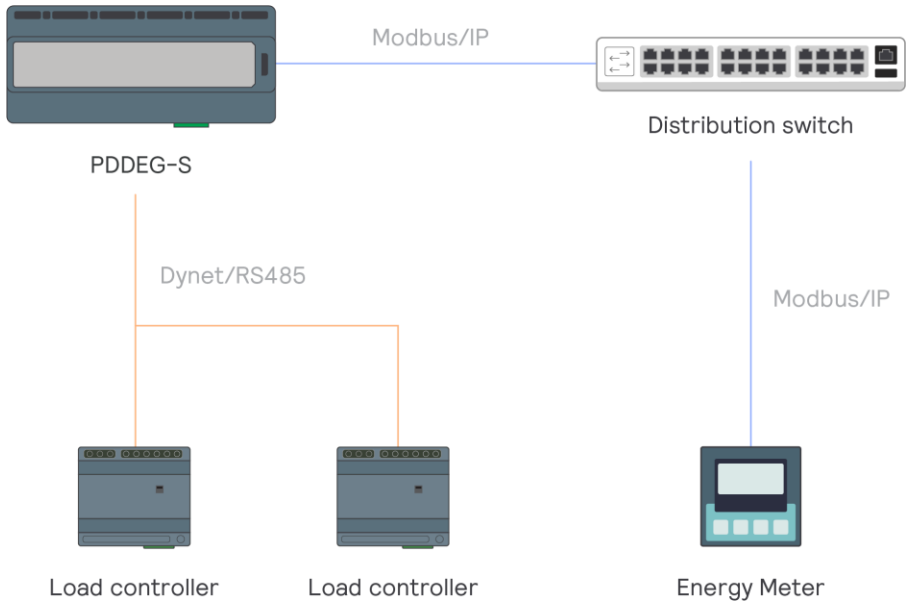
Metered energy - Modbus IP | Add and configure Modbus Meters

Step B2: Open Job file from the Cloud

To add Modbus meters:

1. In the **System** view, **click** on **PDDEG-S**.
2. Go to the **Create Device** tab.
3. Select **Meters** tab.
4. Click **Manage Custome Meters**





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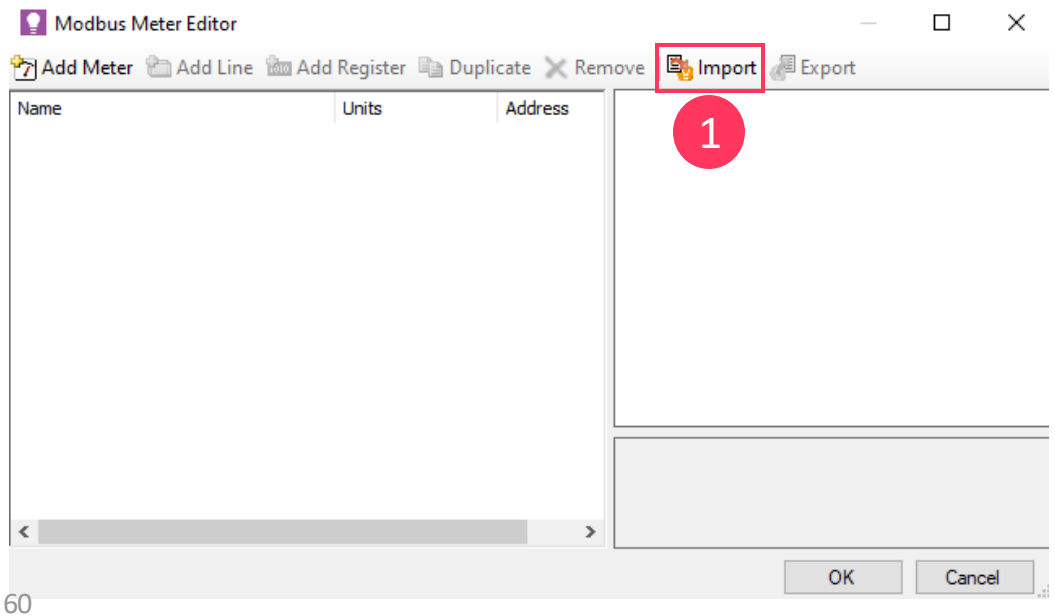
Metered energy - Modbus IP | Add and configure Modbus Meters

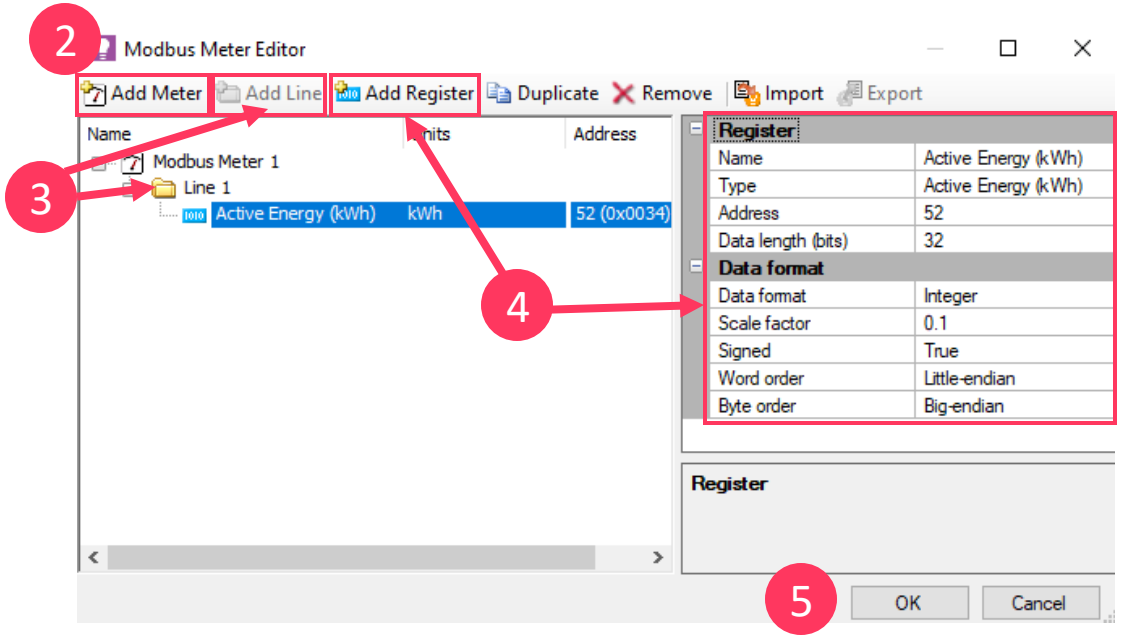
When selected **Manage Custom Meters** :

1. Click **Import**, to load Modbus from the external file

or,

2. Click **Add Meter**
3. Create a **Line**
4. **Add Register** and configure an **Active Energy** register, according to Modbus Meter technical documentation.
5. Click **OK**





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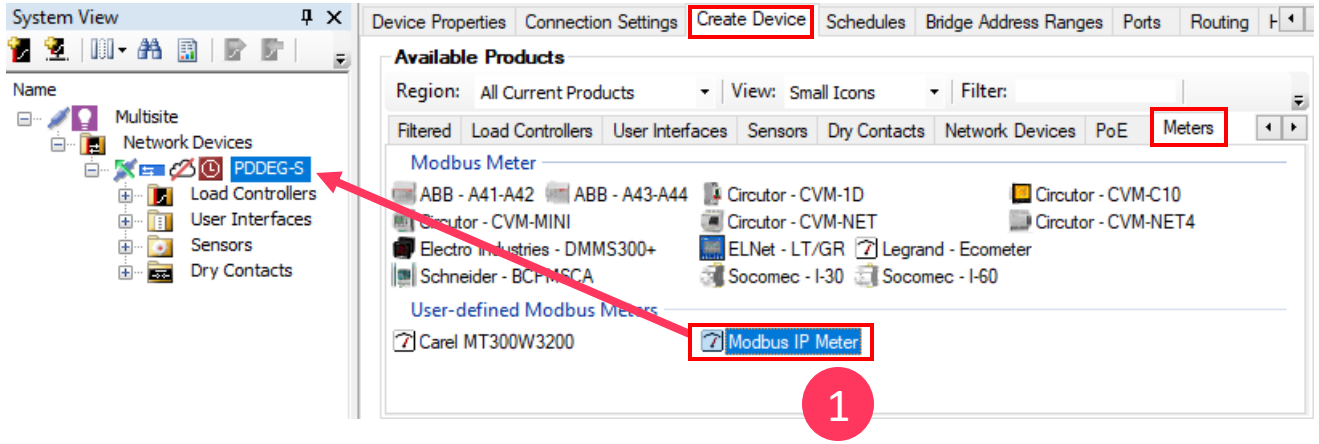
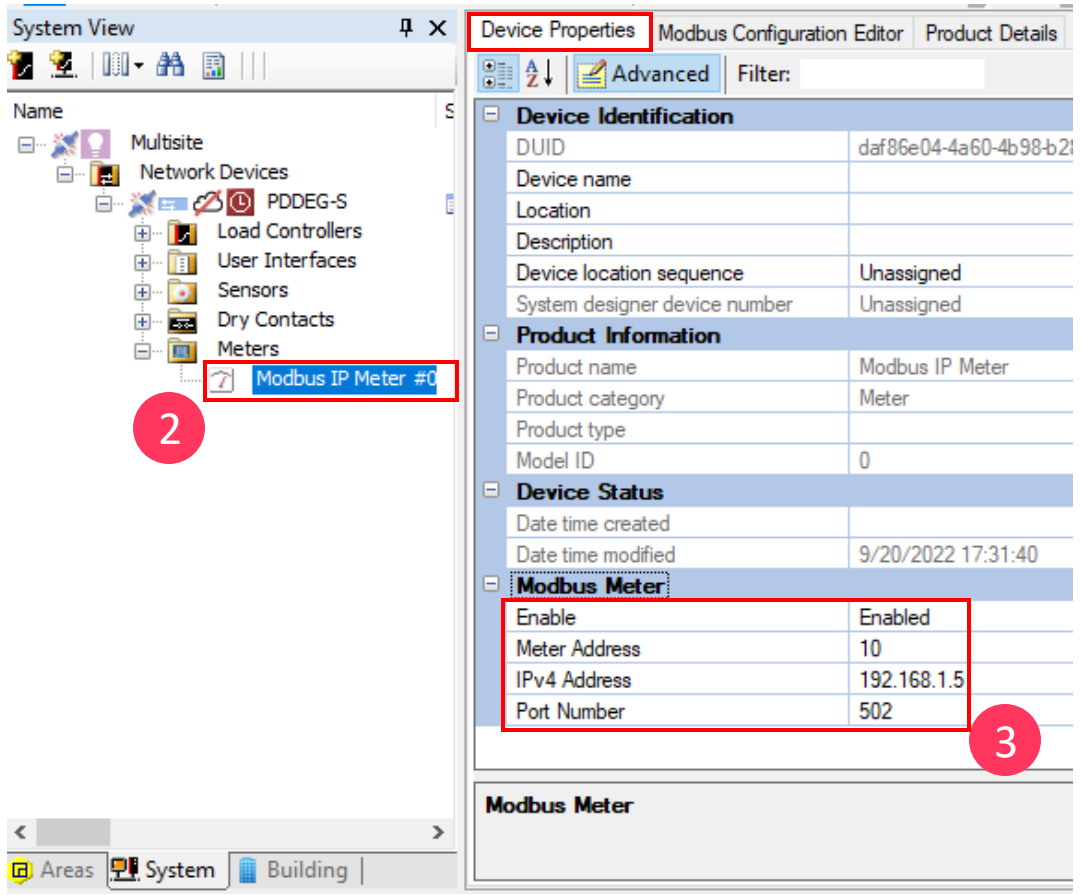
Metered energy - Modbus IP | Add and configure Modbus Meters

Custom meter will appear on **Meters** list (*PDDEG-S--> Create Device tab*)

1. **Drag & Drop** custom meter under **PDDEG-S**
2. **Click** on the Modbus Meter
3. On the **Device Properties** tab, specify **Meter Address** and ensure meter is **Enabled.** Fill in meter **IP address** and **Port number**.





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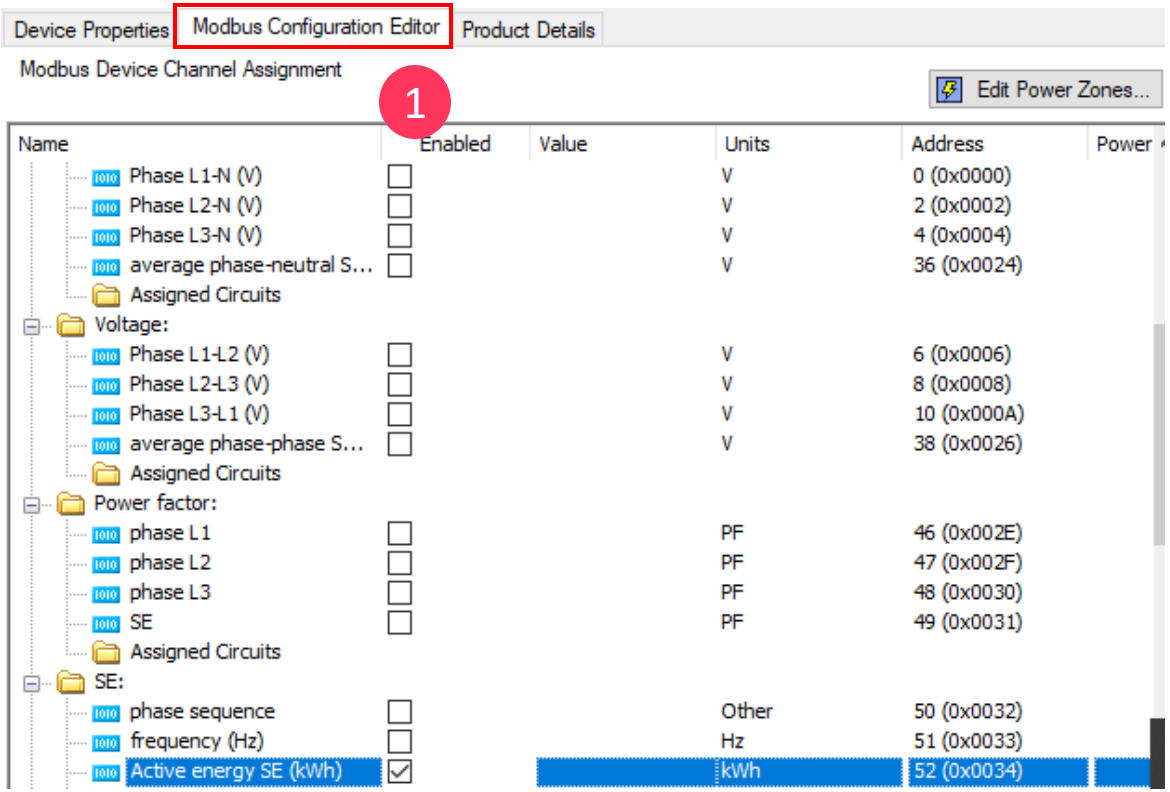
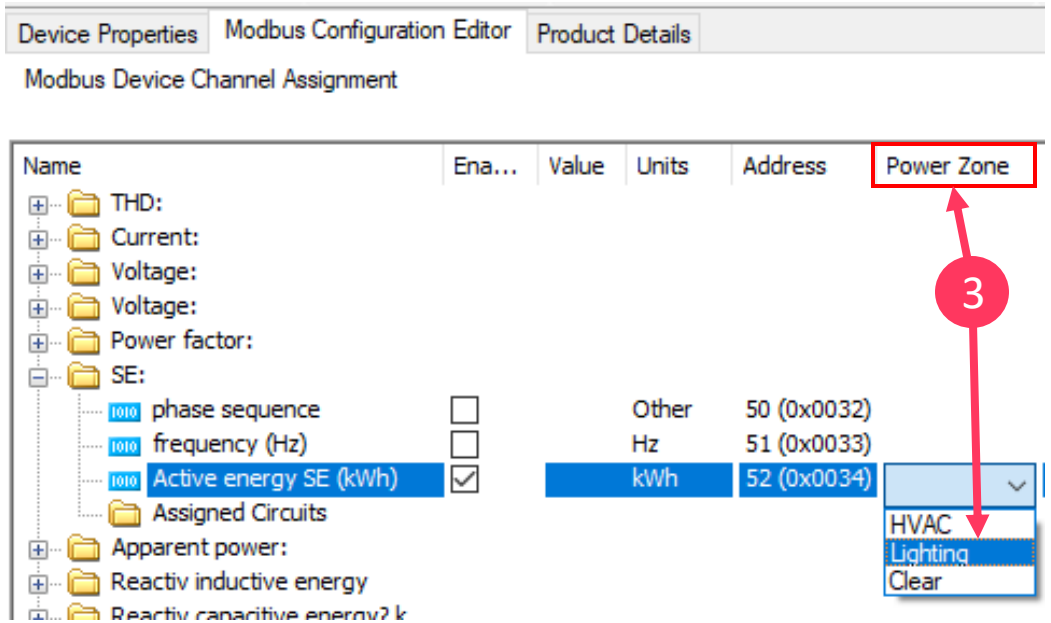
Metered energy - Modbus IP | Add and configure Modbus Meters

Having selected Modbus meter in the System view:

1. Go to **Modbus Configuration Editor** tab.
2. **Enable** an **Active Energy** register.
3. In a **Power Zone** column, assign desired **Power Zone** to the **Active Energy** register.





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Metered energy - Modbus IP | PDDEG-S configuration

In order to finalize **PDDEG-S** configuration for Metered Energy:

1. On the **Metrics** tab, ensure that **Total Energy Consumption** metric has a **Polling Interval** of **15** minutes

Metric	
Metric type	Total Energy Consumption (Modbus)
Metric	Enabled
Method	Polling
Port type	Ethernet
Protocol	Modbus gateway
Polling interval	00:15:00
Number of registers	2
Data format	Integer
Scale factor	0.1
Signed	True
Word order	Little-endian
Byte order	Big-endian

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Plan installation and commissioning

Architecture FLX - Multisite

Plan installation | Connectivity audit

Order hardware

System Designer tool can generate reports with complete overview of all designed in system components. Make sure all the hardware required for the project have been ordered.

Perform a connectivity audit

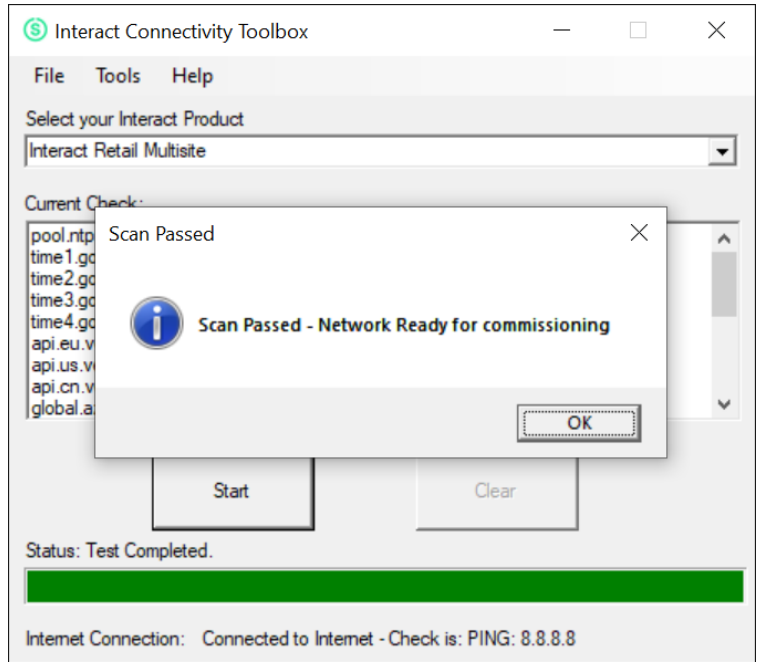
IT department of customer should be informed about number of endpoints which must be accessible from the internal network in order to provide gateway connectivity to Interact Cloud.

*More information is available on the **Signify Partner Portal** in the **Security Statement** document.*

*To ensure customer IT infrastructure is ready for the Multisite installation, it is advised to run on the customer site an **Interact Connectivity Toolbox.***

Ideally, this should happen prior to the commissioning date, with close cooperation between Signify and customer`s IT department.

1. Visit **Signify Partner Portal** and download **Interact Connectivity Toolbox** software and **Technical Note** document
2. Follow all the steps described in the **Technical Note**



Plan commissioning | Preparation

Request work order for Site Engineer

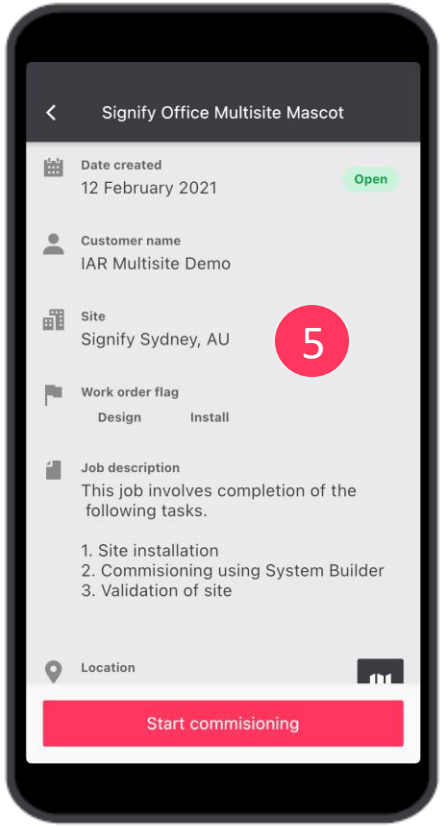
Before onsite activities, a work order for Site Engineer must be requested and proceeded by Global Software Operations team. The installer receives an email when the work order is assigned.

Install Interact Retail Install app

*Before going onsite, install the **Interact Retail Install app*** on the phone.

It is recommended to check if the **Interact Retail Install app** functions as expected to prepare for the onsite commissioning.

1. Open the app on your device
2. Select region: **Global**
3. Enter your username (email address), then tap **Next**
4. Enter your password. Tap **Sign In**
5. Select the **work order.** It is expected to observe work order summary page with a **Start Commissioning** button**. Do not start commissioning** before site visit.



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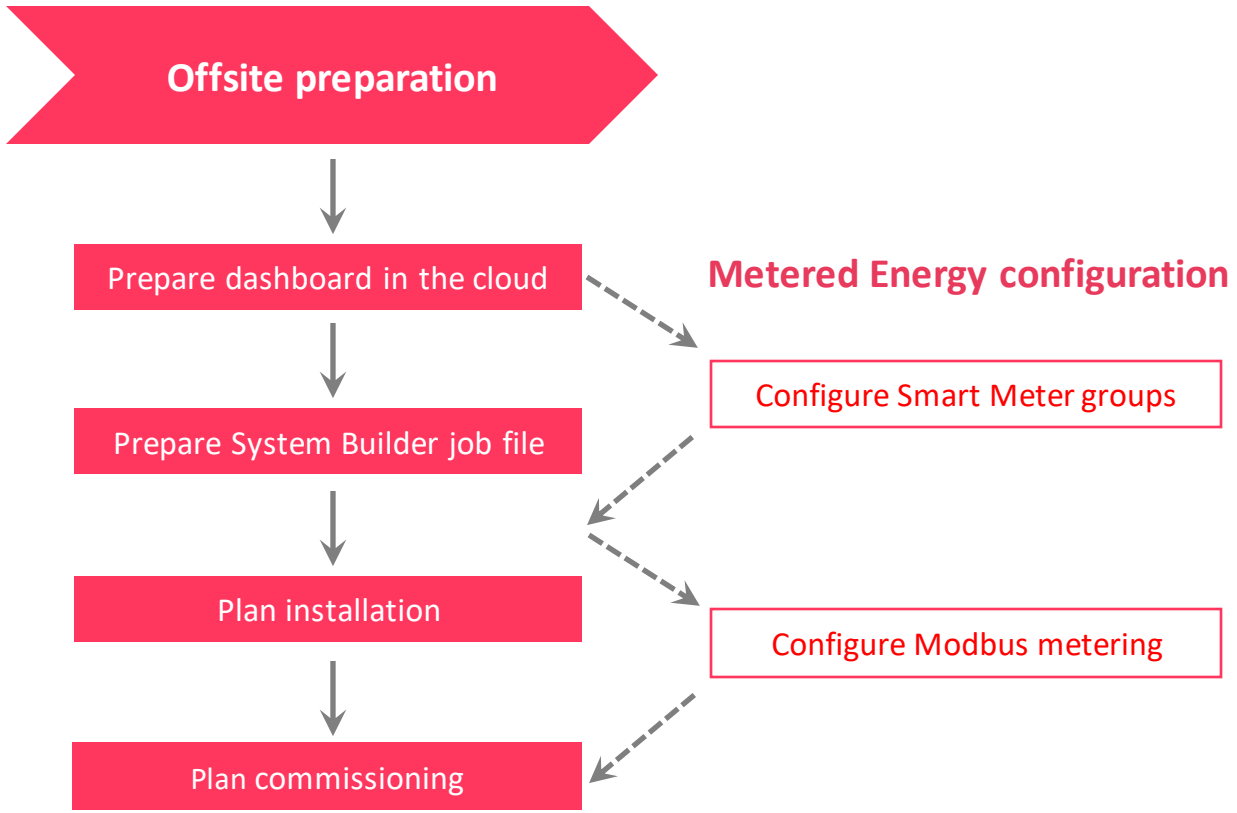
Lesson review

Architecture FLX - Multisite

Lesson review | Onsite installation, commissioning and validation

In this lesson, you have learnt:

- Which are the steps to be taken in the offsite commissioning.
- Base Link Areas need to be defined and linked to each channel before uploading the System Builder file to the cloud. Plus, all the areas have 64 presets, devices have unique names, and the gateway have 100 schedules, 30 public holidays, and 30 special events.
- Manual Override integration features need the task and join additional configuration.
- Metered Energy configurations are only relevant for projects that are meant for monitoring of an Active Energy consumption through Modbus meters.



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