



Add-On Products
OfficePlace

Sensors User Guide

Document Revision 01

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Terminology

Term	Definition
Sensor	An occupancy detection device connected to their respective resources that automatically recognizes occupant's presence.
Resource	A location where an appointment takes place. It can be a room, a desk, or any place in which an appointment can take place.
Reservation	Booking of an appointment.
OfficePlace Connect	A mediator between Exchange Server and OfficePlace Sensor. OfficePlace Connect directly works with Exchange Server and sends all appointments changes from OfficePlace Sensor to Exchange Server.

CHAPTER 1. Introduction

OfficePlace Sensor Overview

OfficePlace Sensor is a product of Add-On Products that manages Exchange appointments based on user occupancy, a set of sensor business rules and the actual sensor measurements of occupancy.

This product e.g., helps organizations to automatically create a reservation by detecting if there is any occupant in the resource, and automatically ends the reservation once the occupant leaves the resource.

The following diagram describes the overall interaction of Sensor with other stakeholders.

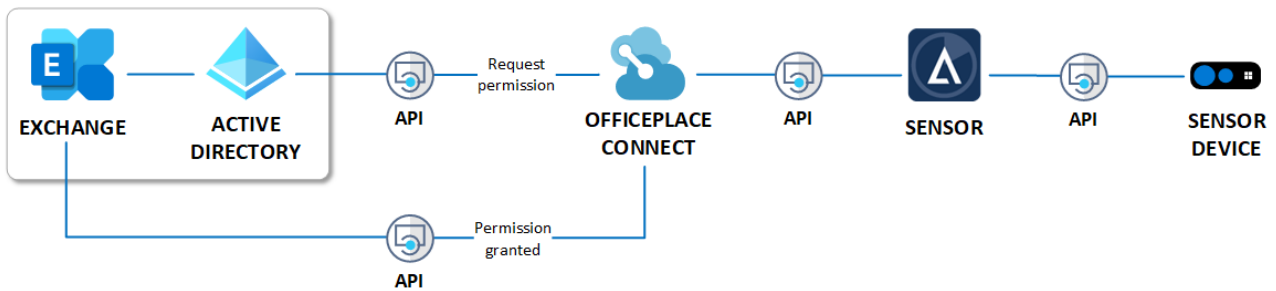


Figure 1. Sensor Management interface

Admin users can log in to the OfficePlace interface and perform Sensor-related tasks. Their tasks may include, but are not limited to the following:

- Creating and managing Sensor devices.
- Configuring resource rules for reservation creation at the connected resource.
- Setting up Sensor connection.

NOTE: Go to [System Requirements](#) page in Add-On Products website to have an overview of System requirements for Sensors.

CHAPTER 2.

How to configure OfficePlace Sensor

To use OfficePlace Sensor, you need to log in OfficePlace. Open the browser and navigate to the address of the web server where **OfficePlace** is hosted.

It will display the Login screen of OfficePlace as below:

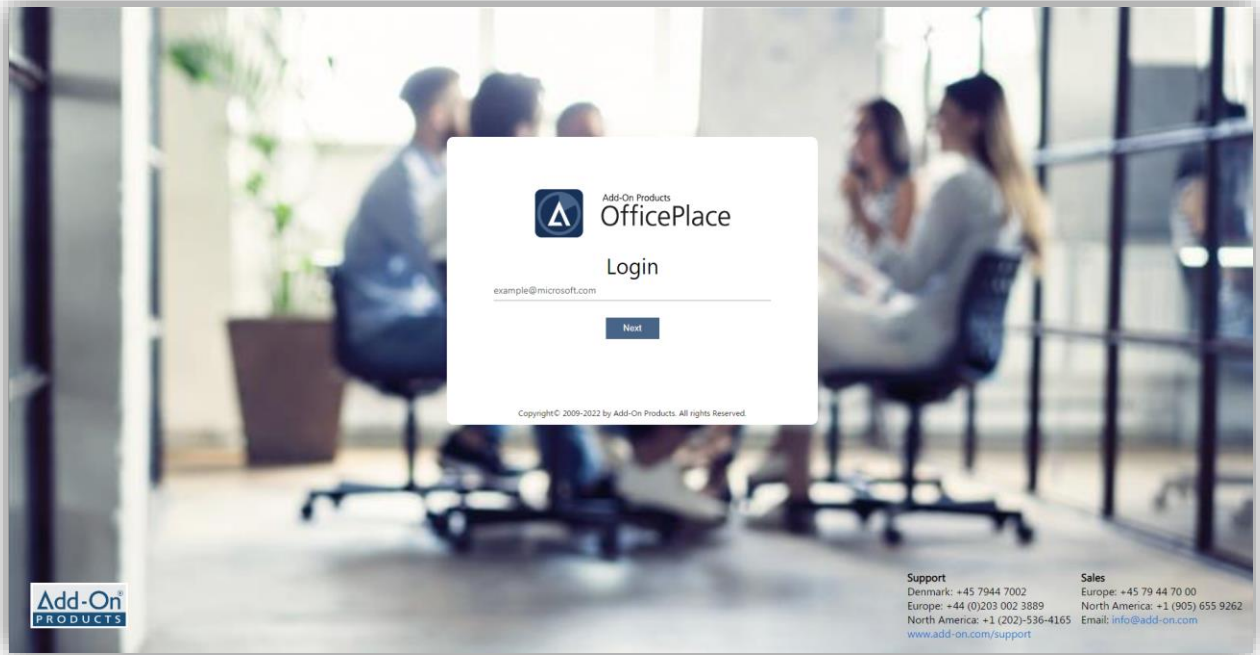


Figure 2. Sensor Management interface

Log in with your user account and you will access the OfficePlace interface and choose **Sensor Management**.

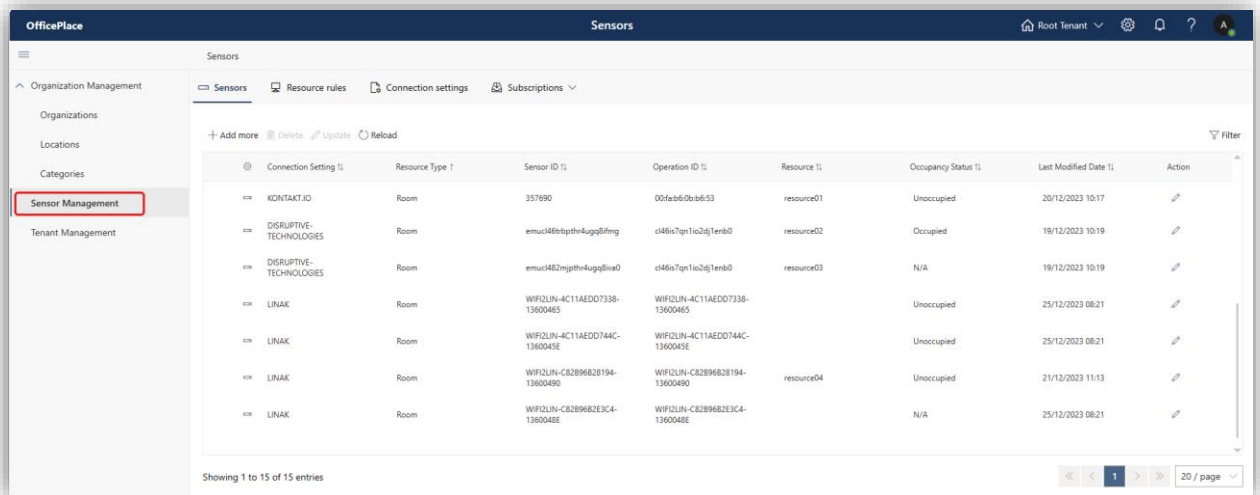


Figure 3. Sensor Management interface

You can view the available Sensor devices as well as their IDs, operation IDs, the resources that are connected to Sensors, the occupancy status of the resources, and the action button to edit sensor.

Also, if you have ReadWrite permission in this section (given by the tenant owner or OfficePlace admin), you may add, manage Sensor devices, and connect them to available resources.

The Sensor Management includes following sections:

- **Connection settings:** This section lets you add and manage Connection Settings in order to set up connection to the respective Sensor devices.
- **Sensors:** This section lets you add and manage Sensor devices, the resources that they are connected to, and check the occupancy status of the Sensor-connected resources.
- **Resource rules:** This section lets you set resource rules for the Sensor-connected resources. These resource rules will be used to dictate what to do with the reservations booked for those resources, based on the data gathered from the Sensor devices.
- **Subscriptions:** This section lets you create Linak Installation Management, Linak Subscription, Kontakt.IO subscription, and Disruptive-Technologies Data connector that allow you to access and obtain real-time data associated to sensors automatically whenever there is a change observed.

Connection settings

In order to retrieve data from the Sensor devices, the Sensor system needs to have an API Key, sync URLs as well as account information for those Sensor devices' type (or in other words the device manufacturer DISRUPTIVE-TECHNOLOGIES, KONTAKT.IO, LINAK, and YANZI). These data can be registered in the **Connection settings** tab.

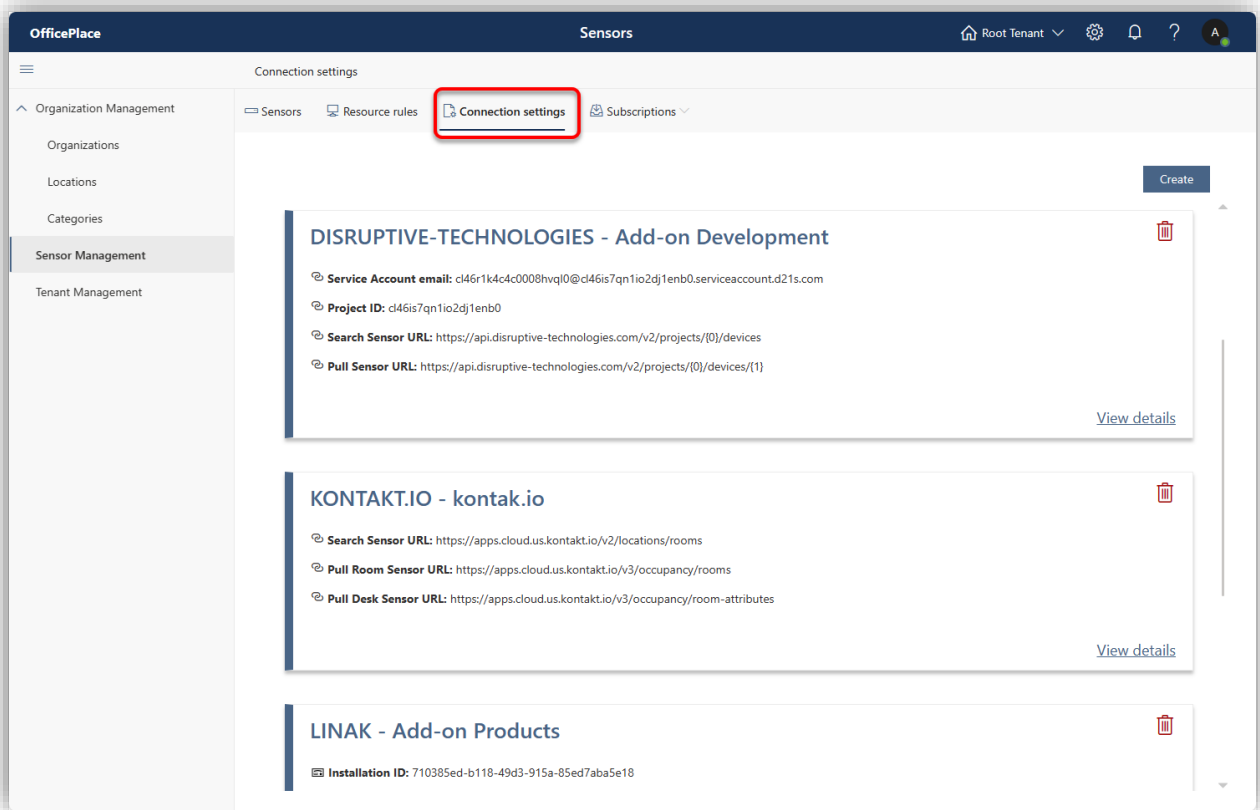


Figure 4. Connection settings section

Connection setting: DISRUPTIVE-TECHNOLOGIES

NOTE: Before establishing a connection to Disruptive-Technologies IoT server, please refer to [Disruptive-Technologies Sensor Configuration Guide](#) for more details on how to configure this sensor type.

Add connection to DISRUPTIVE-TECHNOLOGIES

Click on **[Create]** button on the upper right to start adding a connection to sensors. The following screen will appear. Select 'DISRUPTIVE-TECHNOLOGIES' to continue configuring.

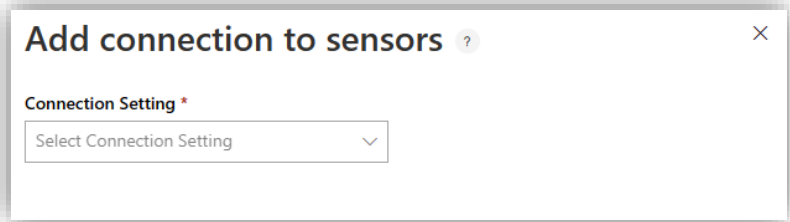


Figure 5. Add connection to sensor

For this connection setting, fill in the fields which are described in the below table:

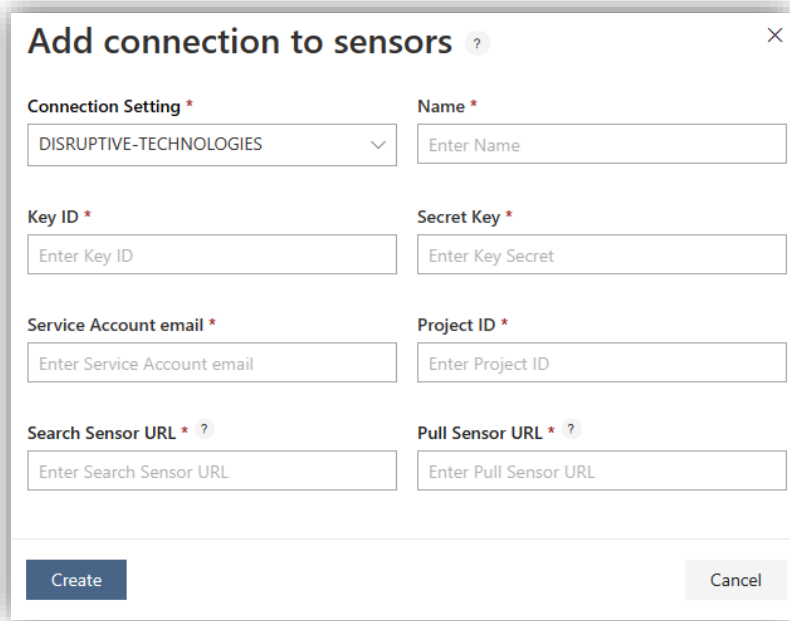


Figure 6. Add connection to Disruptive-Technologies

Connection Setting	Fields	Description
DISRUPTIVE-TECHNOLOGIES	Name	Name of the connection.
	Key ID	Details of the Service Account that is integrated with the Disruptive Technologies API. To learn more about how to retrieve the fields for Disruptive-Technologies, refer to Appendix A .
	Secret Key	
	Service Account email	
	Project ID	
	Search Sensor URL	URL used by the Sensor system to gather the list of Sensor IDs provided by the device manufacturer that can be searched and added to the Sensor system later.
	Pull Sensor URL	URL used to request Sensor device data from the manufacturer.

Click **[Create]** and a confirmation screen that summarizes the filled-out information will prompt as the following figure:

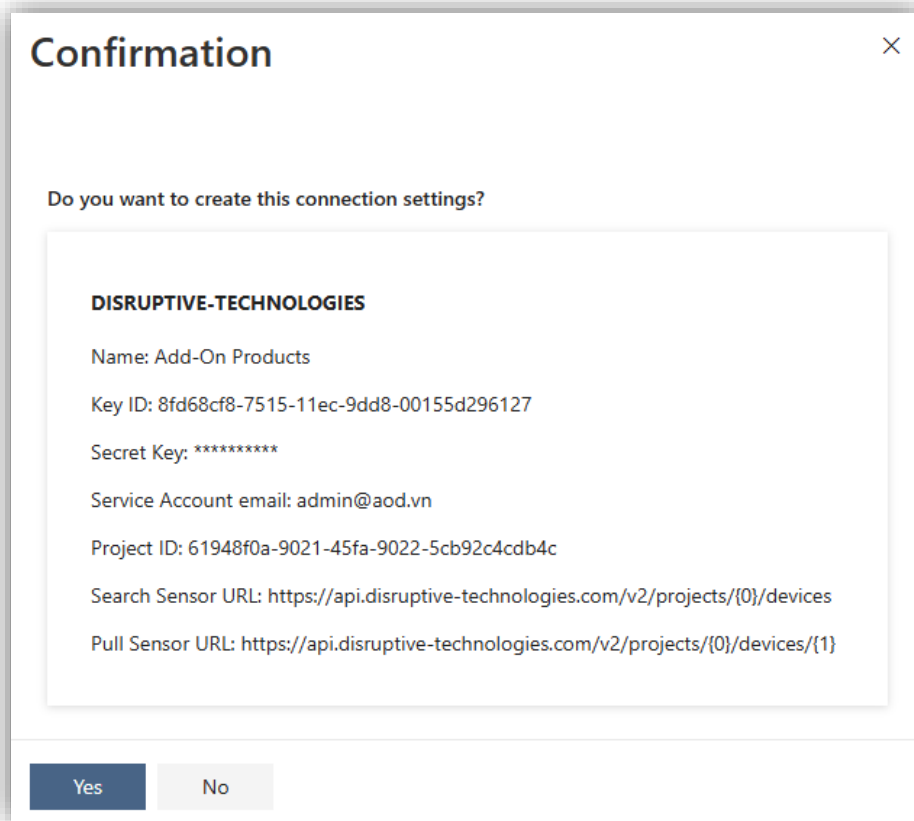


Figure 7. Create connection setting - Confirmation

Click [Yes] to confirm, [No] to cancel the creation.

If you enter invalid information into the field(s), an error message similar to the following will be displayed that requires you to re-configure:

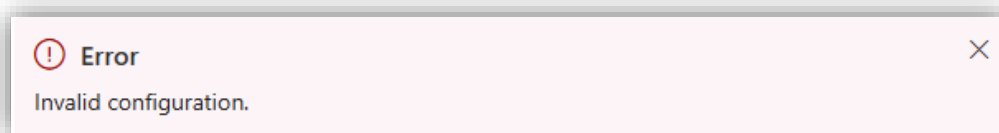


Figure 8. Incorrect configuration input

Update connection to DISRUPTIVE-TECHNOLOGIES

To update a DT connection, click [View details] on the bottom left of that connection to open the update connection screens similar as follows:

Update connection to sensors ?

Connection Setting *
DISRUPTIVE-TECHNOLOGIES

Name *
Add-On Development

Key ID *
asIW2lYpaS/HNAjazEUiqg7h1zMMV5oF+f...

Secret Key *

Service Account email *
cl46r1k4c4c0008hvql0@cl46is7qn1io2dj1e...

Project ID *
cl46is7qn1io2dj1enb0

Search Sensor URL * ?
https://api.disruptive-technologies.com/v2...

Pull Sensor URL * ?
https://api.disruptive-technologies.com/v2...

Update Cancel

Figure 9. Update connection to Sensors – Disruptive-Technologies

You can update all the available fields except for the 'Connection Setting'. When you are done, click [**Update**]. The 'Confirmation' screen which reviews all the updated values will be displayed as follows. Click [**Yes**] to save.

Confirmation X

Do you want to save your change(s)?

DISRUPTIVE-TECHNOLOGIES

Name: Add-On Products

Key ID: +lY22pBhNsCpilxY9F/hGHKlJtylws0d3HBFUgZ6EEU=

Secret Key: *****

Service Account email: coudang4uap000cibj00@coudahyo7irbigqlanh10.serviceaccount.d21s.com

Project ID: coudaho7irbigqlanh10


Search Sensor URL: https://api.disruptive-technologies.com/v2/projects/{0}/devices

Pull Sensor URL: https://api.disruptive-technologies.com/v2/projects/{0}/devices/{1}

Yes No

Figure 10. Update connection to Disruptive-Technologies – Update confirmation

Delete connection to DISRUPTIVE-TECHNOLOGIES

To delete a connection to DT sensors, click on  icon on the upper right of that connection. If that sensor connection setting has associated sensor(s), you cannot remove the connection. The 'Confirmation' screen similar as follows will appear:

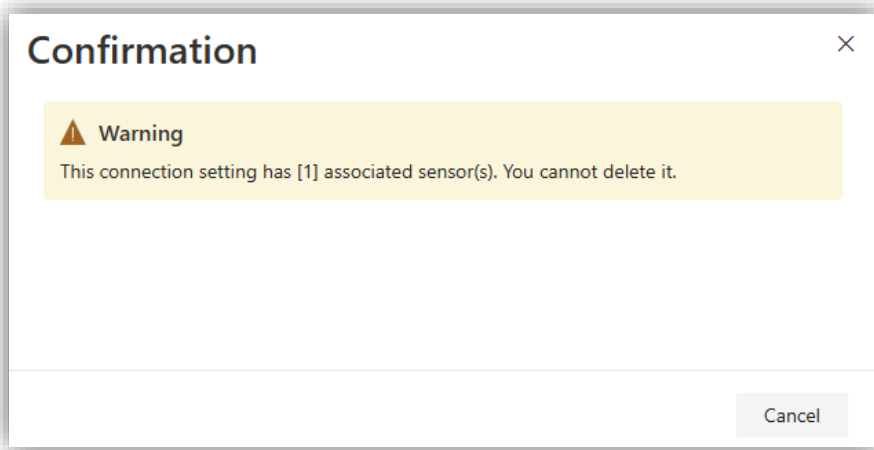


Figure 11. Sensor-attached Connection Setting - Delete Confirmation

If there is no sensor connected to that connection setting, you can delete the connection. Please note that, if you delete DT connection setting, the attached Data Connectors will also be removed from the system:

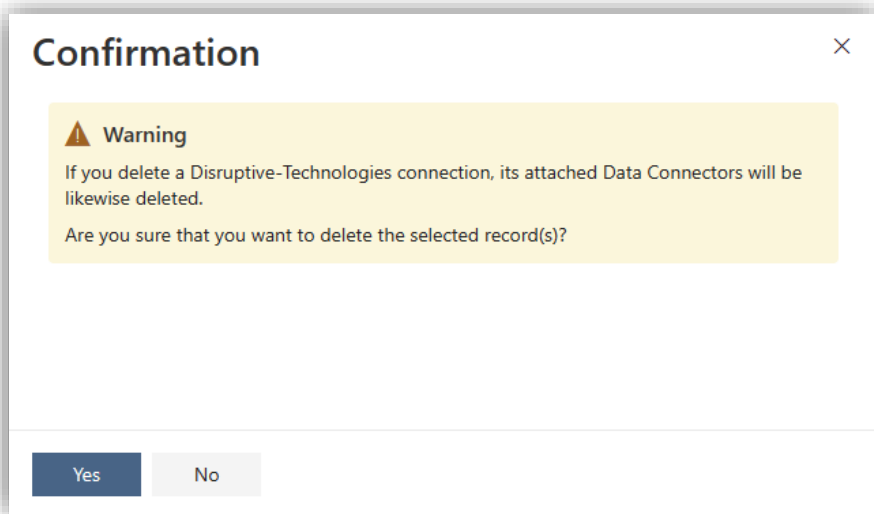


Figure 12. Non-sensor attached Connection Setting - Delete confirmation

Click [Yes] to delete, [No] to cancel deleting.

Connection setting: KONTAKT.IO

NOTE: Before establishing a connection to Kontakt.IO IoT server, please refer to [Kontakt.IO Sensor Configuration Guide](#) for more details on how to configure this sensor type.

Add connection to KONTAKT.IO

Click on **[Create]** button on the upper right to start adding connection to sensors. The following screen will appear, and you have to choose the Connection Setting first to continue configuring.

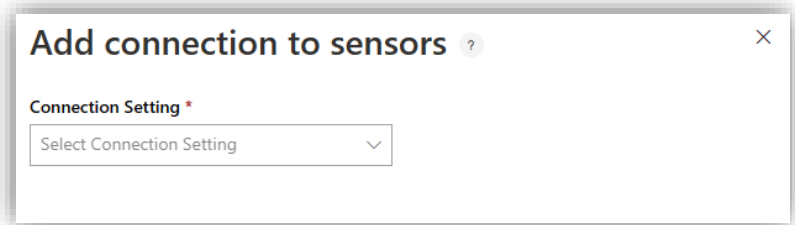


Figure 13. Add connection to sensor

If you select “Kontakt.IO”, you have to fill in the following fields:

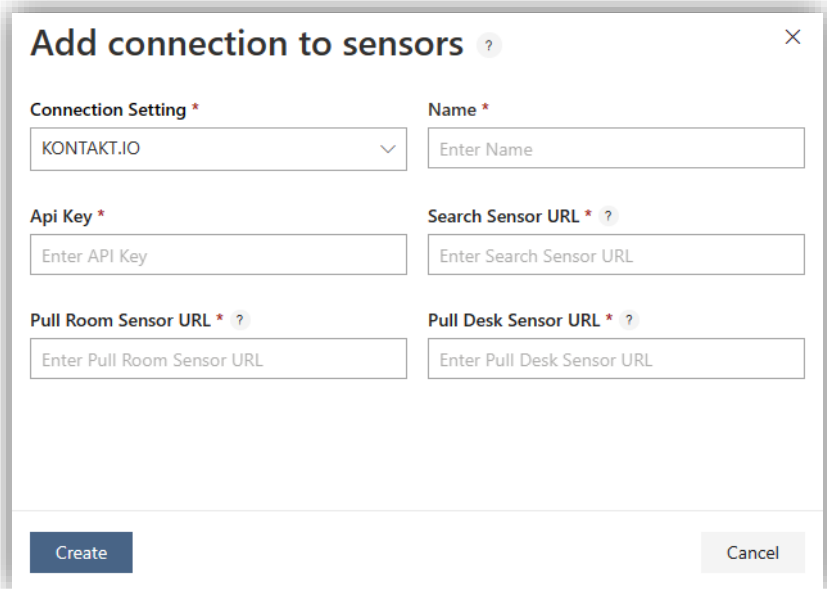


Figure 14. Add connections to Kontakt.IO

Connection Setting	Fields	Description
KONTAKT.IO	Name	Name of the connection.
	API Key	API key of Kontakt.IO is used to connect data from its respective Sensor devices to OfficePlace. Refer to Appendix A to learn how to retrieve it.
	Search Sensor URL	URL used by the Sensor system to gather the list of Sensor IDs provided by the device manufacturer that can be searched and added to the Sensor system later.
	Pull Room Sensor URL	URL used to request Room Sensor device data from the manufacturer.
	Pull Desk Sensor URL	URL used to request Desk Sensor device data from the manufacturer.

Click [**Create**] and a confirmation screen that summarizes the filled-out information will prompt as the following figure:

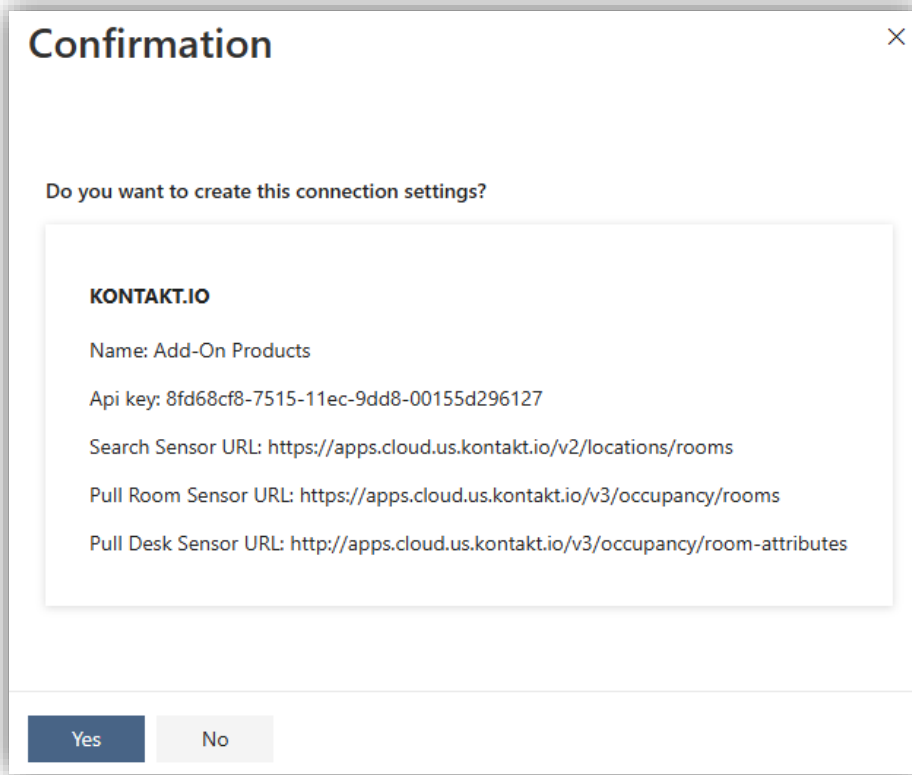


Figure 15. Create connection setting - Confirmation

Click [**Yes**] to confirm, [**No**] to cancel the creation.

If you enter invalid information into the field(s), an error message similar to the following will be displayed that requires you to re-configure:



Figure 16. Incorrect configuration input

Update connection to KONTAKT.IO

To update a KONTAKT.IO connection, click [**View details**] on the bottom left of that connection to open the update connection screens similar as follows:

Figure 17. Update connection to Sensors – KONTAKT.IO

You can update all the available fields except for the 'Connection Setting'. When you are done, click **[Update]**. The Confirmation which reviews all the new values will be displayed as follows. Click **[Yes]** to save.

Figure 18. Update connection to KONTAKT.IO – Update confirmation

Delete connection to KONTAKT.IO

To delete a connection to Kontakt.IO sensors, click on  icon on the upper right of that connection.

If that sensor connection setting has associated sensor(s), you cannot remove the connection. The 'Confirmation' screen similar as follows will appear:

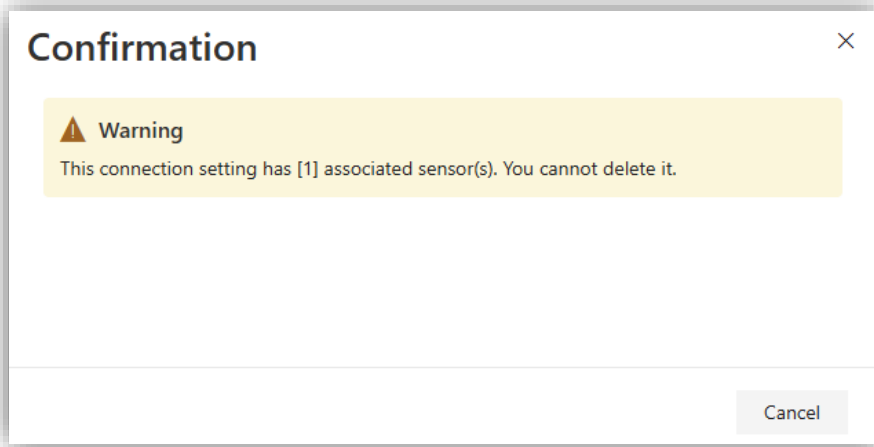


Figure 19. Sensor-attached Connection Setting - Delete Confirmation

If there is no sensor connected to that connection setting, you can delete the connection. The 'Delete Confirmation' screen will assemble the below figure:

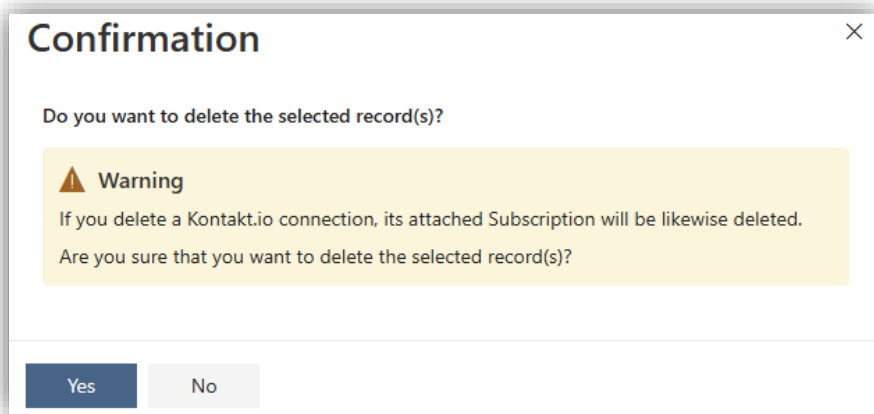


Figure 20. Non-sensor attached Connection Setting - Delete Confirmation

Click [Yes] to delete, [No] to cancel deleting.

Connection setting: LINAK

NOTE: Before establishing a connection to Linak IoT server, please refer to [Linak Sensor Configuration Guide](#) for more details on how to configure this sensor type.

Add connection to LINAK

Click on **[Create]** button on the upper right to start adding connection to sensors. The following screen will appear, and you have to choose the Connection Setting first to continue configuring.

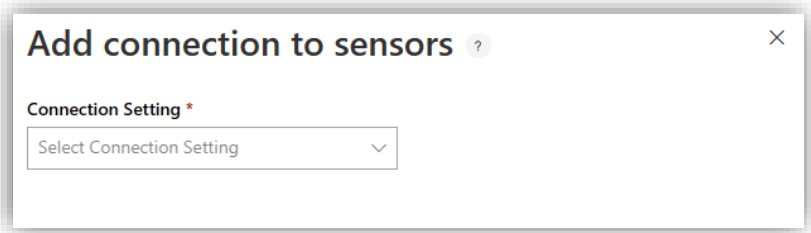


Figure 21. Add connection to sensor

Click on the drop-down button and select 'LINAK' type. Then, you are required to fill in different fields which are described in the table below:

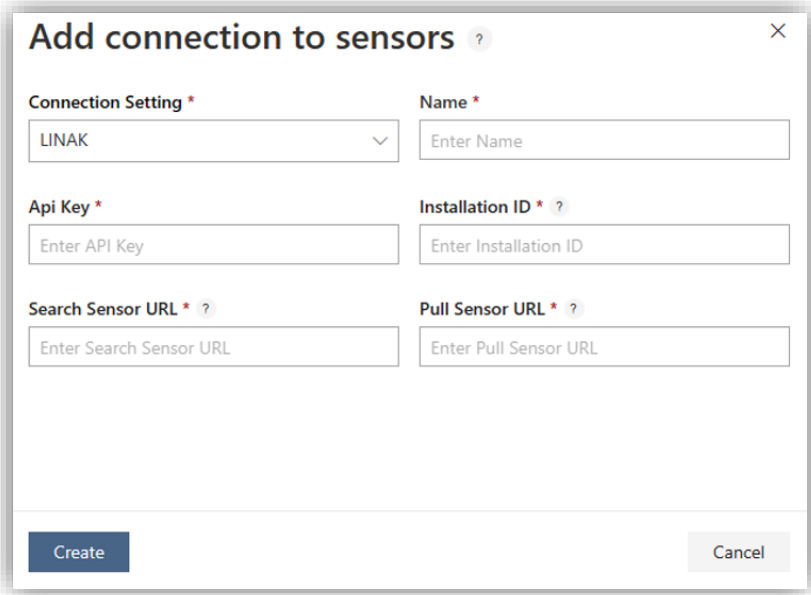


Figure 22. Add connection to Linak

Connection Setting	Fields	Description
LINAK	Name	Name of the connection.
	API Key	API key of Linak is used to connect data from its respective Sensor devices to OfficePlace. This is provided by the Sensor device's manufacturer.
	Installation ID	Unique identifier for a specific device. Refer to LINAK Installation Management section for how to retrieve this ID.
	Search Sensor URL	URL used by the Sensor system to gather the list of Sensor IDs provided by the device manufacturer that can be searched and added to the Sensor system later on.
	Pull Sensor URL	URL used to request Sensor device data from the manufacturer.

Click **[Create]** and a confirmation screen that summarizes the filled-out information will prompt as the following figure:

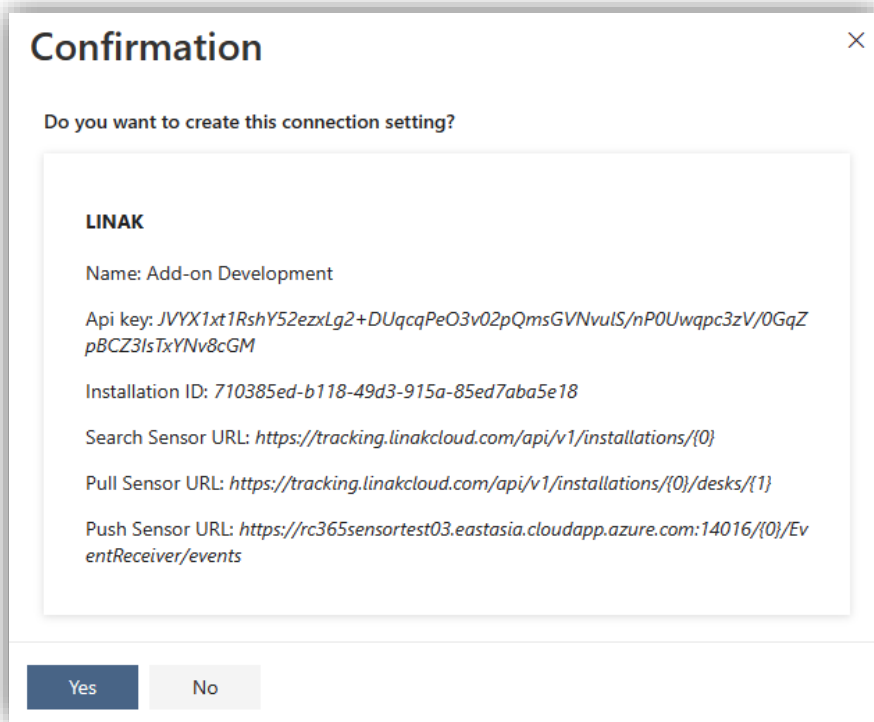


Figure 23. Create connection setting - Confirmation

Click [**Yes**] to confirm, [**No**] to cancel the creation.

If you enter invalid information into the field(s), an error message will be displayed as the figure below that requires you to re-configure:



Figure 24. Incorrect configuration input

Update connection to LINAK


To update a Linak connection, click [**View details**] on the bottom left of that connection to open the update connection screens similar as follows:

Figure 25. Update connection to Sensors – LINAk

You can update all the available fields except for the 'Connection Setting'. When you are done, click [**Update**].

Figure 26. Update connection to LINAk – Update confirmation

Delete connection to LINAk

To delete a connection to Linak sensors, click on  icon on the upper right of that connection.

If that sensor connection setting has associated sensor(s), you cannot remove the connection. The 'Confirmation' screen similar as follows will appear:

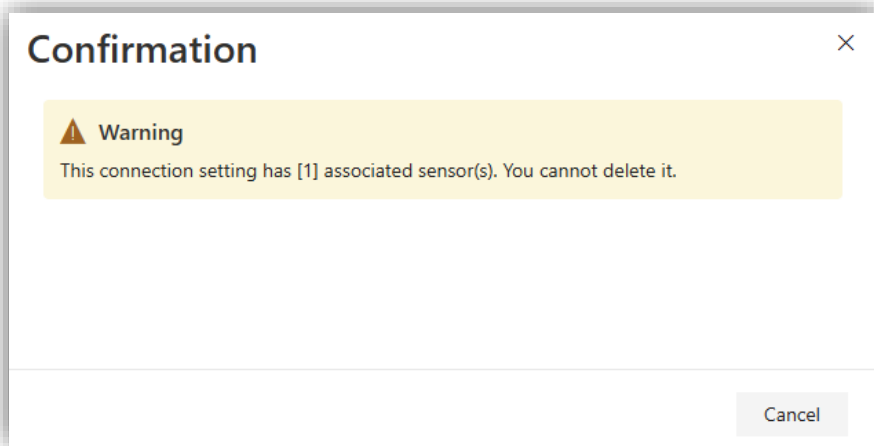


Figure 27. Sensor-attached Connection Setting - Delete Confirmation

If there is no sensor connected to that connection setting, you can delete the connection. The 'Delete Confirmation' screen will assemble the below figure:

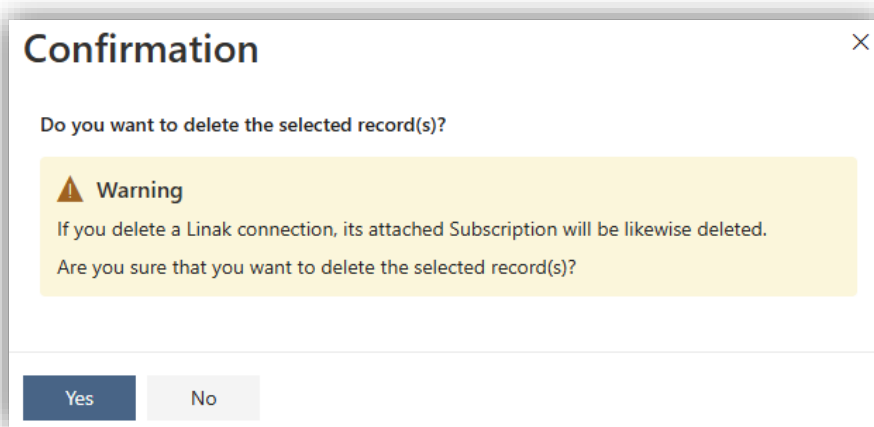


Figure 28. Non-sensor attached Connection Setting- Delete Confirmation

Click [**Yes**] to delete, [**No**] to cancel deleting.

Connection setting: YANZI

NOTE: Before establishing a connection to Yanzi IoT server, please refer to [Yanzi Sensor Configuration Guide](#) for more details on how to configure this sensor type.

Add connection to YANZI

Click on [**Create**] button on the upper right to start adding connection to sensors. The following screen will appear. Then, select 'YANZI' in **Connection Setting** box:

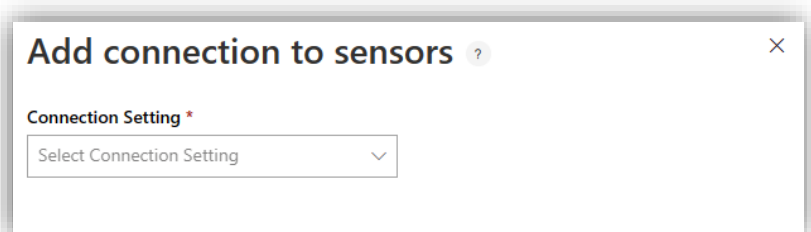


Figure 29. Add connection to sensor

For Yanzi connection, these following fields must be filled in:

Figure 30. Add connection to Yanzi

Connection Setting	Fields	Description
YANZI	Name	Name of the connection.
	Pull Sensor URL	URL used to request Sensor device data from the manufacturer.
	Username	Information of the account set up on Yanzi Cloud. Refer to <i>Yanzi Configuration User Guide</i> for more details.
	Password	
	Location ID	

Click [**Create**] and a confirmation screen that summarizes the filled-out information appears as follows:

Figure 31. Create connection setting - Confirmation

Click [**Yes**] to confirm, [**No**] to cancel the creation.

If you enter invalid information into the field(s), an error message will be displayed as the figure below that requires you to re-configure:

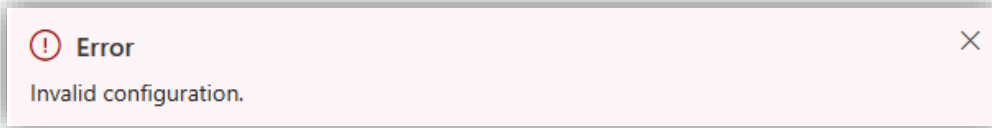


Figure 32. Incorrect configuration input

Update connection to YANZI

To update a YANZI connection, click [**View details**] on the bottom left of that connection to open the update connection screens similar as follows:

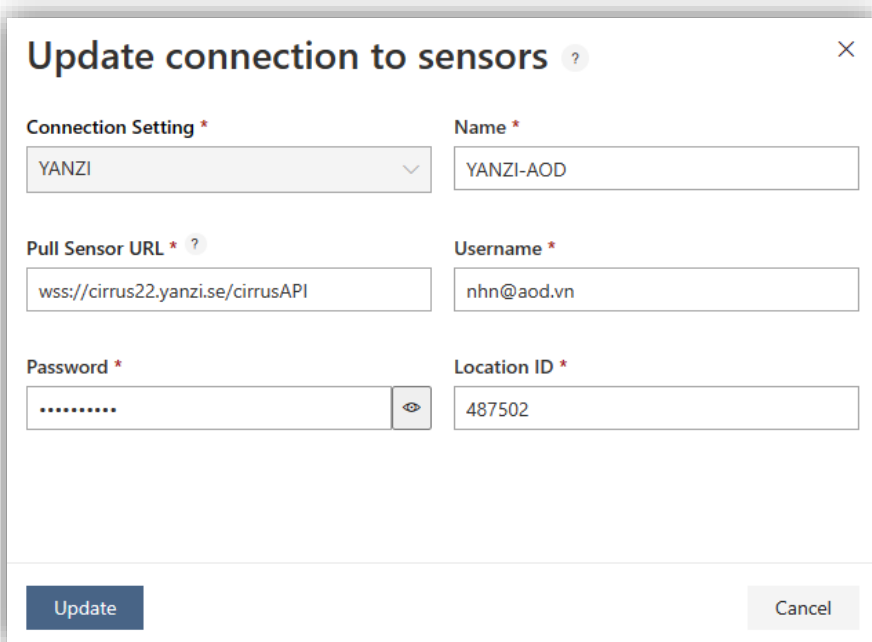
A dialog box titled "Update connection to sensors" with a close button (X) in the top right. It contains several input fields: "Connection Setting" (a dropdown menu with "YANZI" selected), "Name" (text input with "YANZI-AOD"), "Pull Sensor URL" (text input with "wss://cirrus22.yanzi.se/cirrusAPI"), "Username" (text input with "nhn@aod.vn"), "Password" (password input with dots and an eye icon), and "Location ID" (text input with "487502"). At the bottom, there are "Update" and "Cancel" buttons.

Figure 33. Update connection to Sensors - YANZI

You can update all the available fields except for 'Connection Setting'. When you are done, click [**Update**]. The Confirmation which reviews all the new values will be displayed as follows. Click [**Yes**] to save.

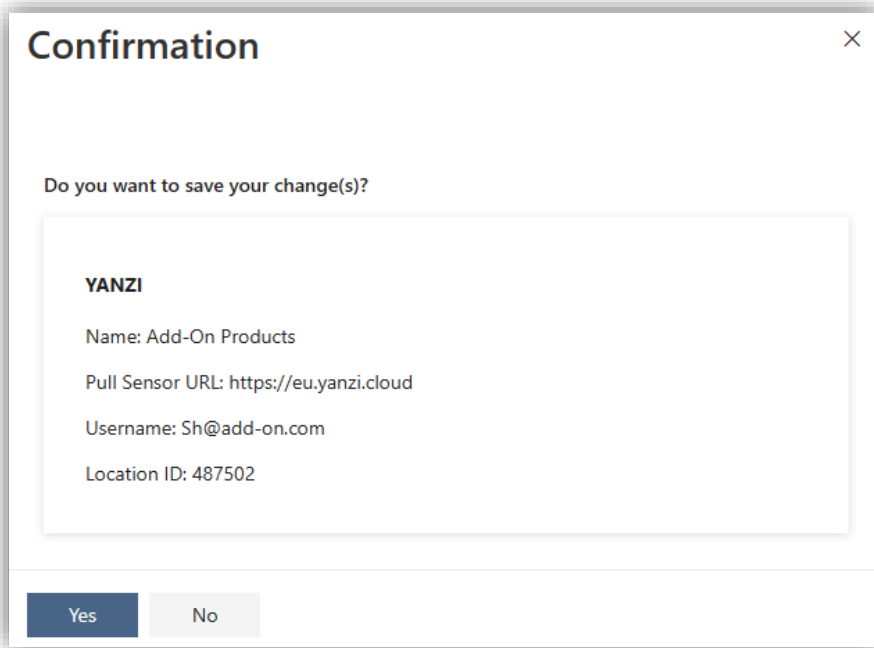



Figure 34. Update connection to YANZI – Update Confirmation

Delete connection to YANZI

To delete a connection to YANZI sensors, click on  icon on the upper right of that connection.

If that sensor connection setting has associated sensor(s), you cannot remove the connection. The 'Confirmation' screen similar as follows will appear:

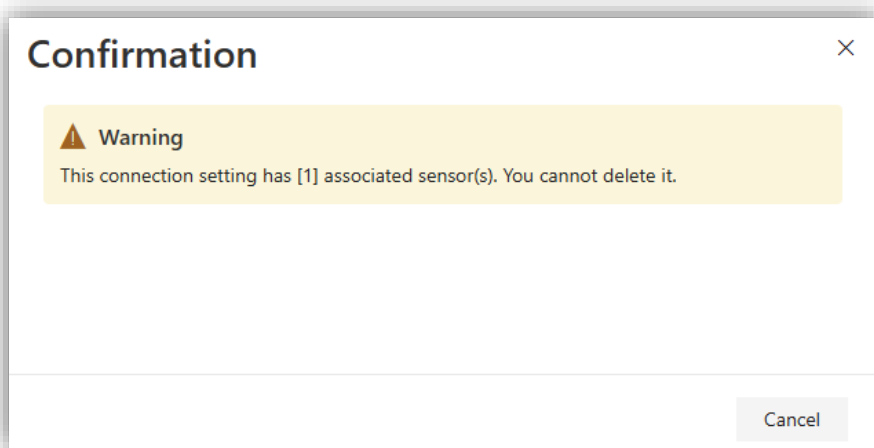


Figure 35. Sensor-attached Connection Setting - Delete Confirmation

If there is no sensor connected to that connection setting, you can delete the connection. The 'Delete Confirmation' screen will assemble the below figure:

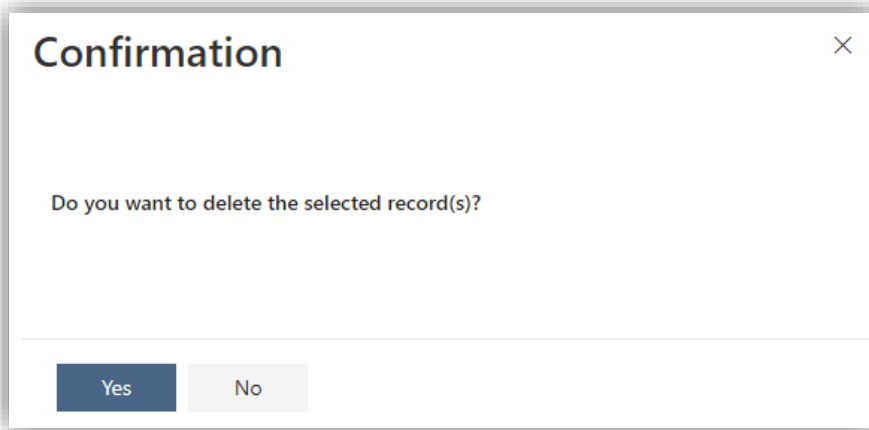


Figure 36. Non-sensor attached Connection Setting - Delete Confirmation

Click **[Yes]** to delete, **[No]** to cancel deleting.

Sensors

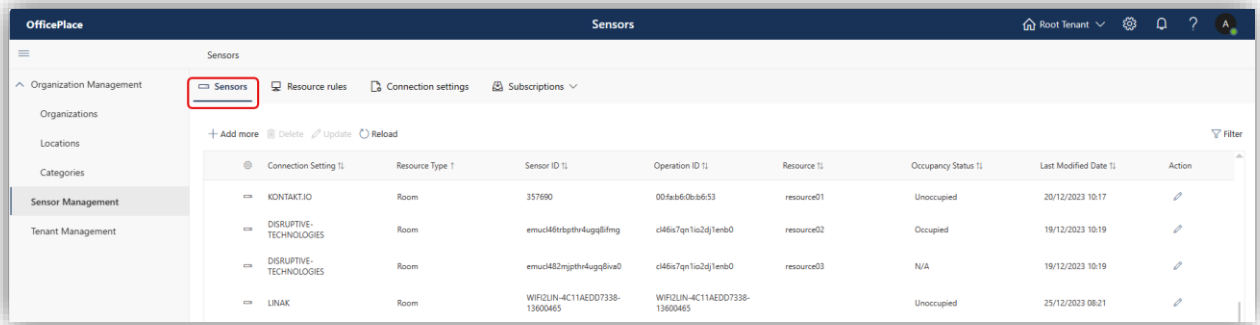


Figure 37. Sensors section

Under **Sensors**, you can add and manage the individual Sensor devices and map them to the resources where they are placed.

Toolbar Buttons	Description
Add more	Add one or multiple Sensor devices and map them to specific resources.
Delete	Delete the selected Sensor devices.
Update	Update the selected Sensor devices.
Reload	Refresh the Sensor devices list.
Filter	Find sensor by the value of any field.

Add Sensor

Clicking **[Add more]** button to open the 'Add Sensor' screen similar as follows:

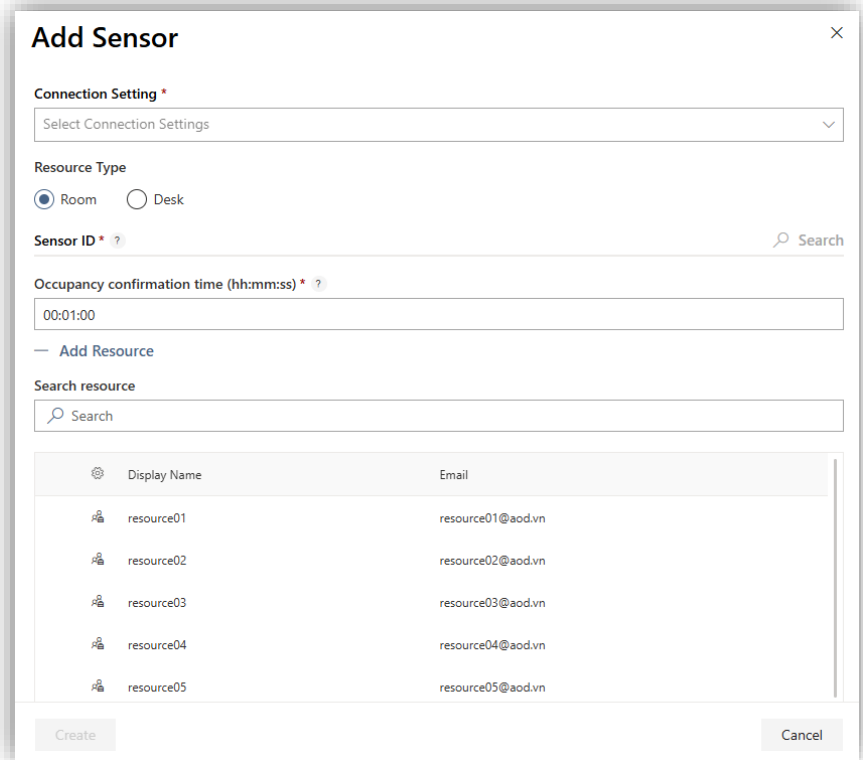
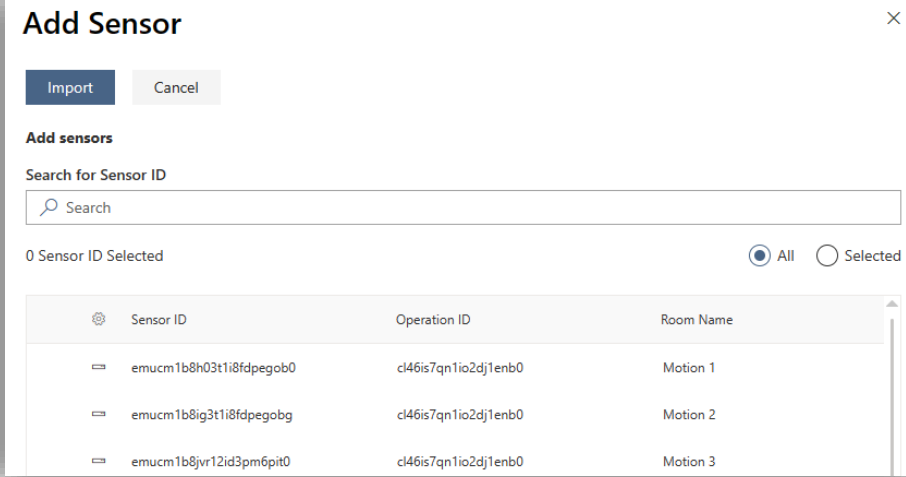
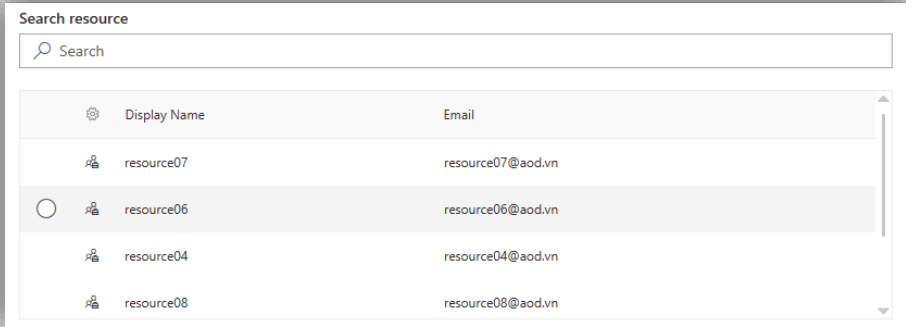


Figure 38. Add Sensor

Field	Description
Connection Setting	Select a Connection Setting.
Resource Type	Select Room or Desk.
Sensor ID	<p>After selecting a Sensor connection setting, click on [Search] to open a list of Sensor IDs gathered from the manufacturer.</p>  <p>Click [Import] to add the ID. You can import multiple IDs, in which each ID is placed on a separate line, e.g.:</p> <pre>SENSOR ID 1 SENSOR ID 2 SENSOR ID 3</pre>
Occupancy confirmation time (hh:mm:ss)	<p>Used to determine whether a visitor occupies the resource or not. If a person remains at the resource for the rest of the specified confirmation time, that resource will be confirmed as occupied.</p> <p>The value of this field follows hh:mm:ss time format.</p> <p>By default, its value is 00:01:00 (meaning the resource is confirmed to be occupied if its connected Sensor device has detected that a person has been there for 1 minute).</p>
Add Resource	<p>Open/close the resource selection panel similar as follows:</p>  <p>The resource selection panel shows the list of available resources including their Display names and Emails. Here you can select a resource to map it to the Sensor device.</p> <p>You can also find a resource by typing its Display name on the Search resource bar.</p>

NOTE: You can only select a resource if there is only one ID added in Sensor ID field. If there are 2 or more IDs added, you will see the following message instead:

Warning

You cannot add resource if there are more than 1 Sensor ID.
Please input 1 Sensor ID only in order to add resource.

When you are done, click **[Create]**. A confirmation screen will show up, choose **[Yes]** to start the creation. You will see a notification informing that the Sensor device(s) are being added. And when the process is completed, you will receive another notification informing the successful creation.

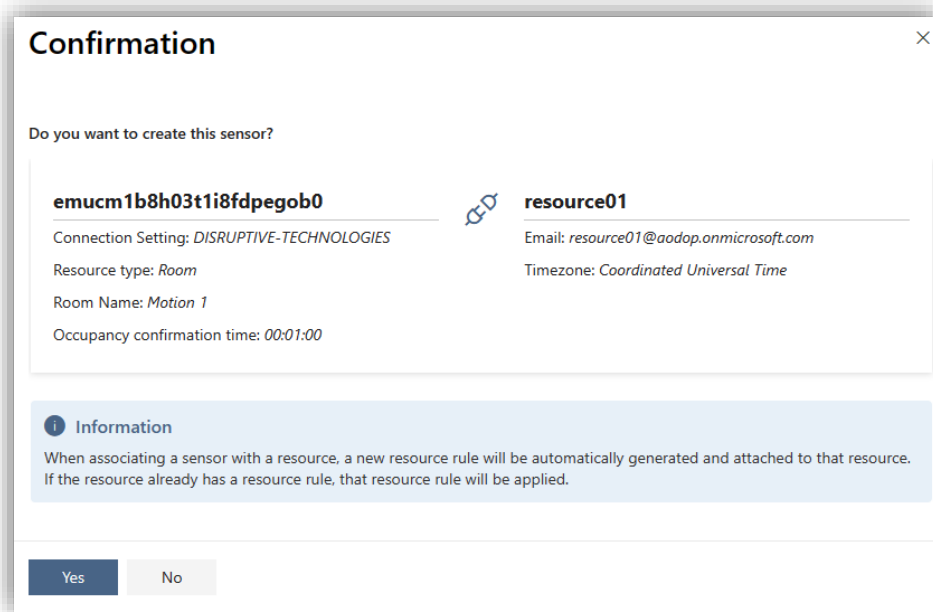


Figure 39. Add Sensors - Confirmation

NOTE: You can add Sensor ID(s) without mapping any resource to the ID(s) yet. Before creating, the confirmation screen will be like this:



In this case, the added Sensor ID(s) will still be displayed on the list of Sensor devices; however, their 'Occupancy status' will show **N/A** (meaning it is not connected to any resource yet). You can still map resource to these Sensor IDs via [Resource rules](#) tab.

Update Sensor

In case you want to update a single Sensor, click on its **Action** button to open its 'Update Sensor' screen, e.g.:

Update Sensor [X]

DISRUPTIVE-TECHNOLOGIES - Add-on Development
 Resource Type: Room
 Room Name: Motion AOP
 Operation ID: cl46is7qn1io2dj1enb0
 Sensor ID: emucm1b8h03t1i8fdpegob0

Resource: resource01

Occupancy confirmation time (hh:mm:ss) * ?

[Update] [Cancel]

Figure 40. Update a single Sensor

On this screen, you can see its Connection Setting, Resource Type, Sensor ID, and the resource that it is connected to.

You can edit the field 'Occupancy confirmation time (hh:mm:ss)'. The value of this field must be greater than 00:01:00 and smaller than 01:00:00. Then, click [**Update**] to apply the change.

If you want to update multiple Sensors simultaneously, select those Sensors and click [Update] on the toolbar. Modify the field 'Occupancy confirmation time (hh:mm:ss)' as you wish. The value of this field must be greater than 00:01:00 and smaller than 01:00:00. When completed, click [**Update**] to apply the change.

Update multiple Sensors [X]

Occupancy confirmation time (hh:mm:ss) * ?

[Update] [Cancel]

Figure 41. Update multiple Sensors

On Sensors section, each Sensor device also shows the current occupancy status of the resource that it is connected to:

- **Unoccupied:** meaning the connected resource is NOT occupied by anyone.
- **Occupied:** meaning the connected resource is occupied.
- **N/A:** meaning the Sensor device is not connected to any resource yet.

Delete Sensor

To remove a sensor, choose it and click [**Delete**] on the toolbar. You can choose multiple sensors and delete them simultaneously. The system will send you a confirmation message as the below figure:

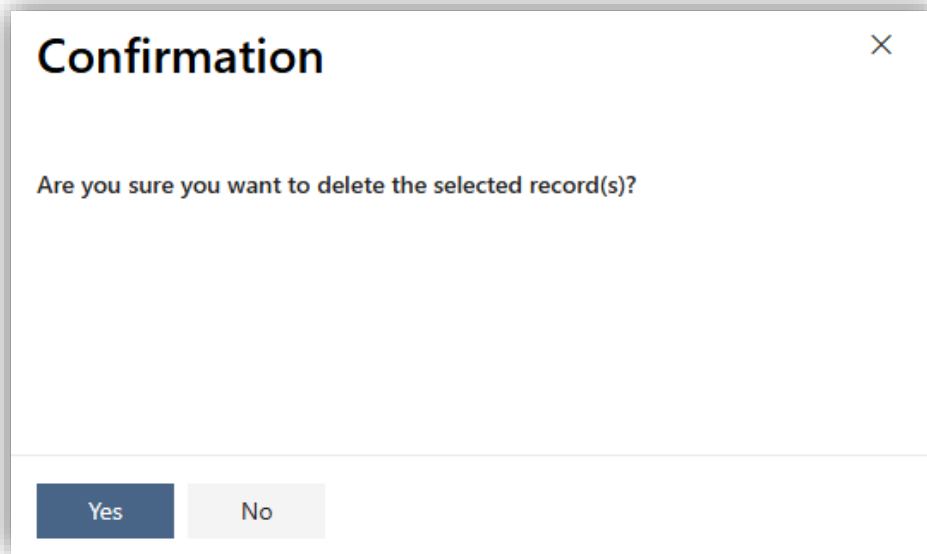








Figure 42. Sensors – Delete Confirmation

NOTE: If there is any error happening to Sensor devices, a warning  texting 'Invalid Connection Setting.' will also appear as below. You can still add/update/delete a sensor of that type.

Connection Setting	Resource Type	Sensor ID	Operation ID	Resource	Occupancy Status	Last Modified Date	Action
DISRUPTIVE-TECHNOLOGIES	Desk	emuc46u2t0a4e6o43r8tjg	cl46is7qn1io2dj1enb0	performance_room1	Unoccupied	15-Dec-23 08:58	
LINAK 	Room	WIFI2LIN-C82B9682E3C4-1360048E	WIFI2LIN-C82B9682E3C4-1360048E		N/A	26-Dec-23 10:04	
LINAK 	Room	WIFI2LIN-FCF5C46ACF5C-13600222	WIFI2LIN-FCF5C46ACF5C-13600222		N/A	26-Dec-23 10:04	

The third row of the table is highlighted with a red box, and a tooltip message "Invalid Connection Setting." is displayed over the LINAK connection setting cell.

Resource rules

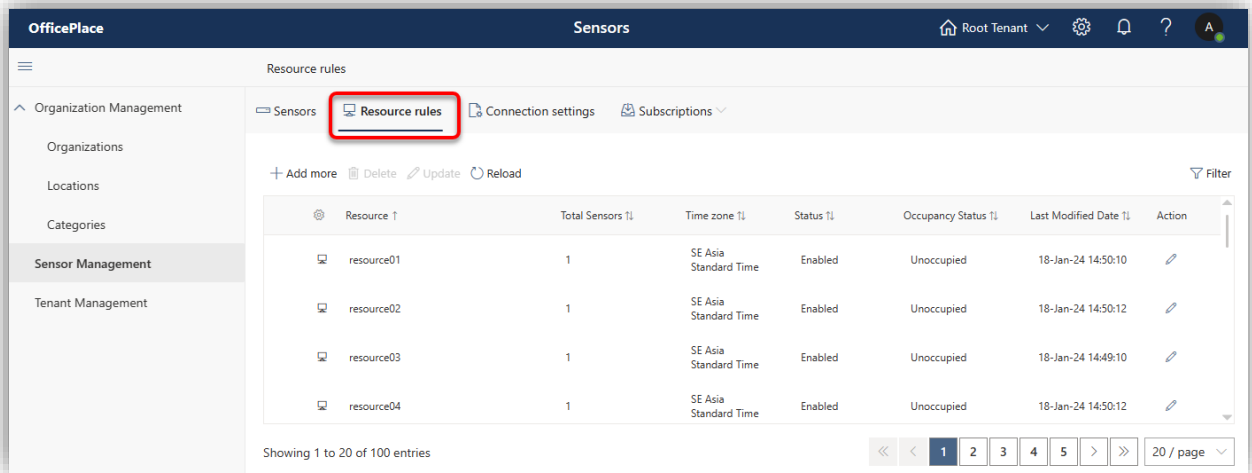


Figure 43. Resource Rules section

Here you can select among available resources and set resource rules for each or all of them.

Toolbar Buttons	Description
Add more	Select available resource(s) and add rules to them.
Delete	Delete the selected resources.
Update	Update resource rules for the selected resources.
Reload	Refresh the Resource Rules list.
Filter	Find sensor the value of any field.

Add Resource Rules

Clicking **[Add more]** will open 'Add Resource Rules' screen that includes 3 following steps:

Step 1: Select resource(s)

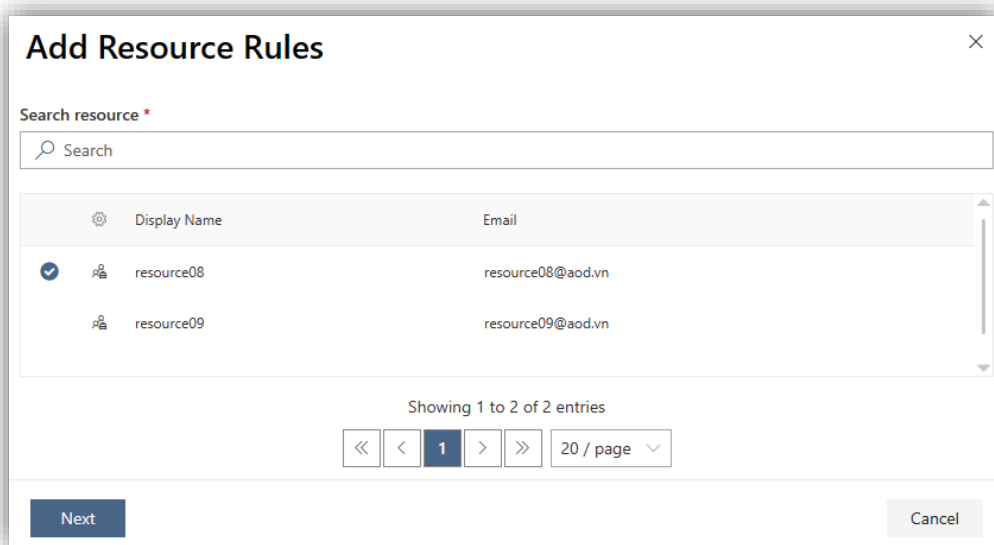


Figure 44. Add Resources Rules – Add Resource

On this step, select a resource that you want to set resource rules, then click **[Next]** to proceed. You can also use the search option to look for the resource by name.

On this screen, you can also select multiple resources, and the resource rules that you are creating will then be applied to all selected resources. (Note that you will not be able to add Sensor devices later on. More details will be described below).

Step 2: Configure resource rules

The screenshot shows a dialog box titled "Add Resource Rules" with a close button (X) in the top right corner. The dialog is divided into several sections for configuring reservation rules:

- Reservation configuration:**
 - No-show setting ?
 - No-show time limit (mins) ? : 15
 - New reservation setting ?
 - Reservation time (hh:mm:ss) : 00:30:00
 - As long as possible ?
 - Reservation extension setting ?
 - Allow unlimited repeats ?
 - Extension repeats (times) : 4
 - Extension duration (mins) : 15
 - Early Check-out setting ?
 - Inoccupancy tolerance duration (mins) ? : 90
 - Early check-out validation time duration (mins) ? : 10

At the bottom of the dialog, there are three buttons: "Next" (highlighted in blue), "Back", and "Cancel".

Figure 45. Add Resources Rules – Reservation Configuration

On this step, you configure the resource rules for the selected resource(s):

Rule	Description
No-show setting	Enable/disable no-show setting. When enabled: the connected Sensor will check if the resource is not occupied as expected due to the scheduled reservation. When there is no person showing up at the resource after the 'No-show time limit' has ended, the resource reservation will be ended.

<p>No-show time limit (mins)</p>	<p>This field specifies the no-show time limit (in minutes) for the 'No-show setting'.</p> <p>The value of this field must be positive integer from 1 to 60 (minutes). By default, its value is '15' (meaning 15 minutes).</p> <p>NOTE: This field is only available if 'No-show setting' is turned on.</p>
<p>New reservation setting</p>	<p>Enable/disable new reservation setting.</p> <p>When enabled: if the resource is confirmed to be occupied (based on the Occupancy confirmation time as mentioned above), a new reservation will be created for that resource.</p> <p>The time for the created reservation is determined by the field 'Reservation time (hh:mm:ss)'.</p>
<p>Reservation time (hh:mm:ss)</p>	<p>This field specifies the time duration for the created reservation.</p> <p>The value of this field follows hh:mm:ss time format which must be greater than 00:01:00 and smaller than 24:00:00. By default, its value is '00:30:00' (meaning 0 hour - 30 minutes - 0 second).</p> <p>NOTE: This field is only available if 'New reservation setting' is turned on.</p>
<p>As long as possible</p>	<p>If the available time until the next planned reservation is less than the specified 'Reservation time (hh:mm:ss)', the new reservation will be created for the available time range and last until the next reservation's start time.</p> <p>For example: Reservation time (hh:mm:ss): 00:30:00 Available time until the next reservation (hh:mm:ss): 00:15:00 If 'As long as possible' is checked, a new reservation with a duration of 15 minutes will be created and last until the next reservation's start time.</p> <p>NOTE: This option is only available if 'New reservation setting' is turned on.</p>
<p>Reservation extension setting</p>	<p>Enable/disable reservation extension setting.</p> <p>When enabled: the reservation can be extended if the connected sensors detect the person remains at the resource after the reservation's end time.</p> <p>The extension time is determined by the field 'Extension repeats (times)' and 'Extension duration (mins)'.</p>
<p>Extension repeats (times)</p>	<p>This field specifies the maximum number of times that reservation extension can be repeated.</p> <p>The value of this field must be positive integer from 1 to 60 (times). By default, its value is '4'.</p> <p>NOTE: This field is only available if 'Reservation extension setting' is turned on.</p>

<p>Extension duration (mins)</p>	<p>This field specifies the extension duration per repeat (in minutes).</p> <p>The value of this field must be positive integer from 1 to 720 (minutes). By default, its value is '15' (meaning 15 minutes).</p> <p>Combining with the default value of 'Extension repeats (times)', it means the reservation can be extended maximum 4 times, each time lasts 15 minutes.</p> <p>NOTE: This field is only available if 'Reservation extension setting' is turned on.</p>
<p>Allow unlimited repeats</p>	<p>If this option is checked, 'Extension repeats (times)' will be disabled.</p> <p>Instead, the reservation can be extended for an unlimited number of times. But if the extension conflicts with another reservation, the extension is stopped at the next reservation's start time.</p> <p>NOTE: This option is only available if 'New reservation setting' is turned on.</p>
<p>Early Check-out setting</p>	<p>Enable/disable early check-out setting.</p> <p>When enabled: the reservation can be ended early if the occupant leaves resource before the reservation's end time.</p> <p>The configuration for this setting is determined by 'Inoccupancy tolerance duration (mins)' and 'Duration before end time to disable Early check-out (mins)'.</p>
<p>Inoccupancy tolerance duration (mins)</p>	<p>This field determines the duration (in minutes) in which inoccupancy of the resource is ignored. It allows breaks during the reservation without ending it.</p> <p>E.g., Employee may leave the desk during a meeting without ending the reservation before its end time.</p> <p>The value of this field must be positive integer from 1 to 720 (minutes). By default, its value is '90' (meaning 90 minutes).</p> <p>NOTE: This field is only enabled if 'Early Check-out setting' is turned on.</p>
<p>Early check-out validation time duration (mins)</p>	<p>In case the occupant leaves the resource before the reservation's end time, the inoccupancy will not be considered as an early check-out scenario if the recorded time of inoccupancy takes place within the last period of the reservation defined by the value of this field (in minutes).</p> <p>The value of this field must be positive integer from 1 to 720 (minutes). By default, its value is '10' (meaning 10 minutes).</p> <p>NOTE: This field is only enabled if 'Early Check-out setting' is turned on.</p>

When you are done, you can click [**Next**] to proceed, or click [**Back**] to return to the previous step if you want to make some changes.

Step 3: Connect the selected resource to a Sensor device (optional)

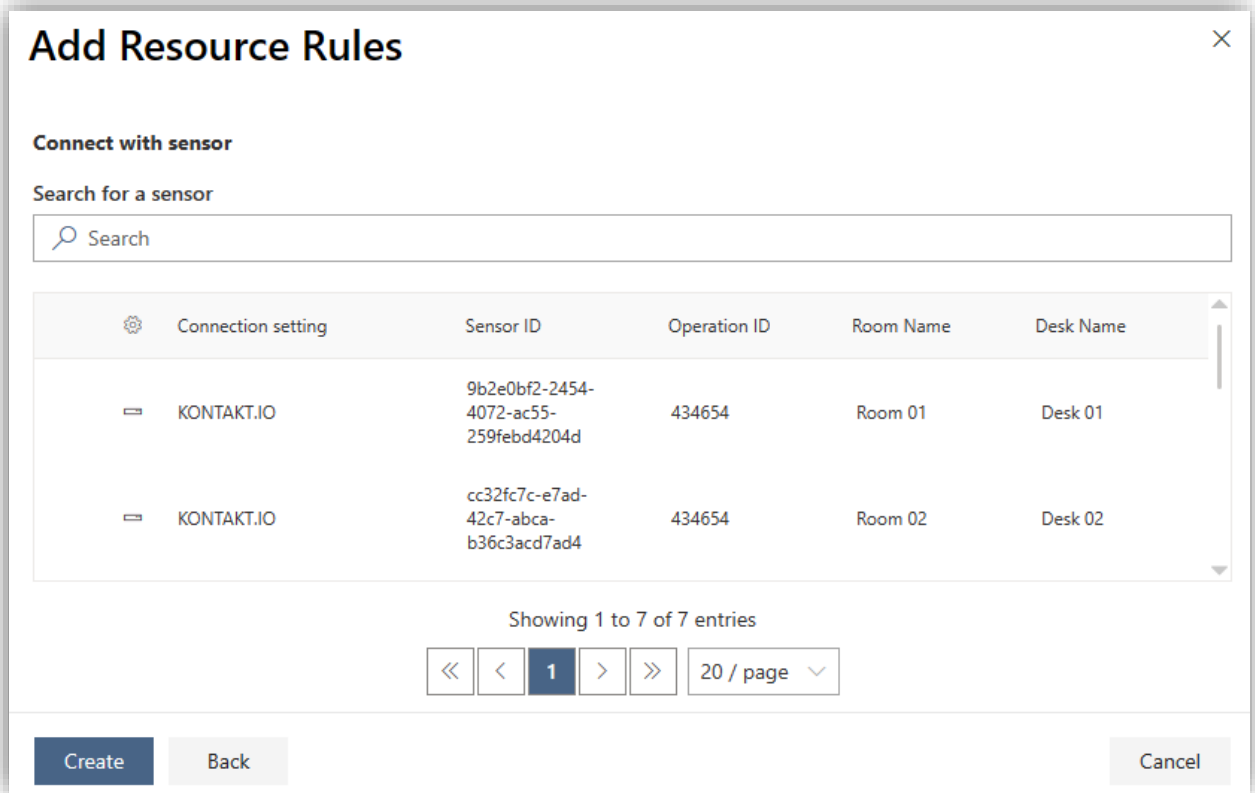


Figure 46. Add Resources Rules – Connect with Sensor

On this step, you can choose to connect a Sensor device to the selected resource if you have only selected 1 resource from the first step. The shown Sensor devices are the ones that you have added in [Sensors](#) tab and they are not connected to any resource yet. You can use the Search function to look for a particular device using its ID.

When you are done, click [**Create**] to proceed, or click [**Back**] to return to the previous step.

You can also ignore this step and just click [**Create**]. In this case, the resource rules will still be applied to the selected resource, but this resource is not connected to any Sensor device yet. This also means the resource rules will not work yet because there is no occupancy data due to the lack of Sensor device.

If you have selected multiple resources from the first step, the following message will be displayed instead:

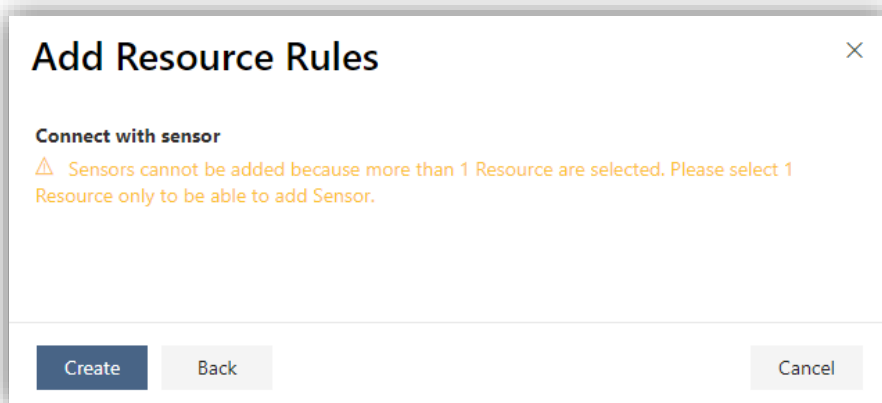


Figure 47. Add Resources Rules – Errors when connecting with Sensor

In this case, you can still click **[Create]** to proceed, meaning the resource rules will still be set for the selected resources. But these resources are still not connected to any Sensor device yet. Similarly, the added resource rules will not work due to the lack of Sensor device.

Step 4: Confirmation

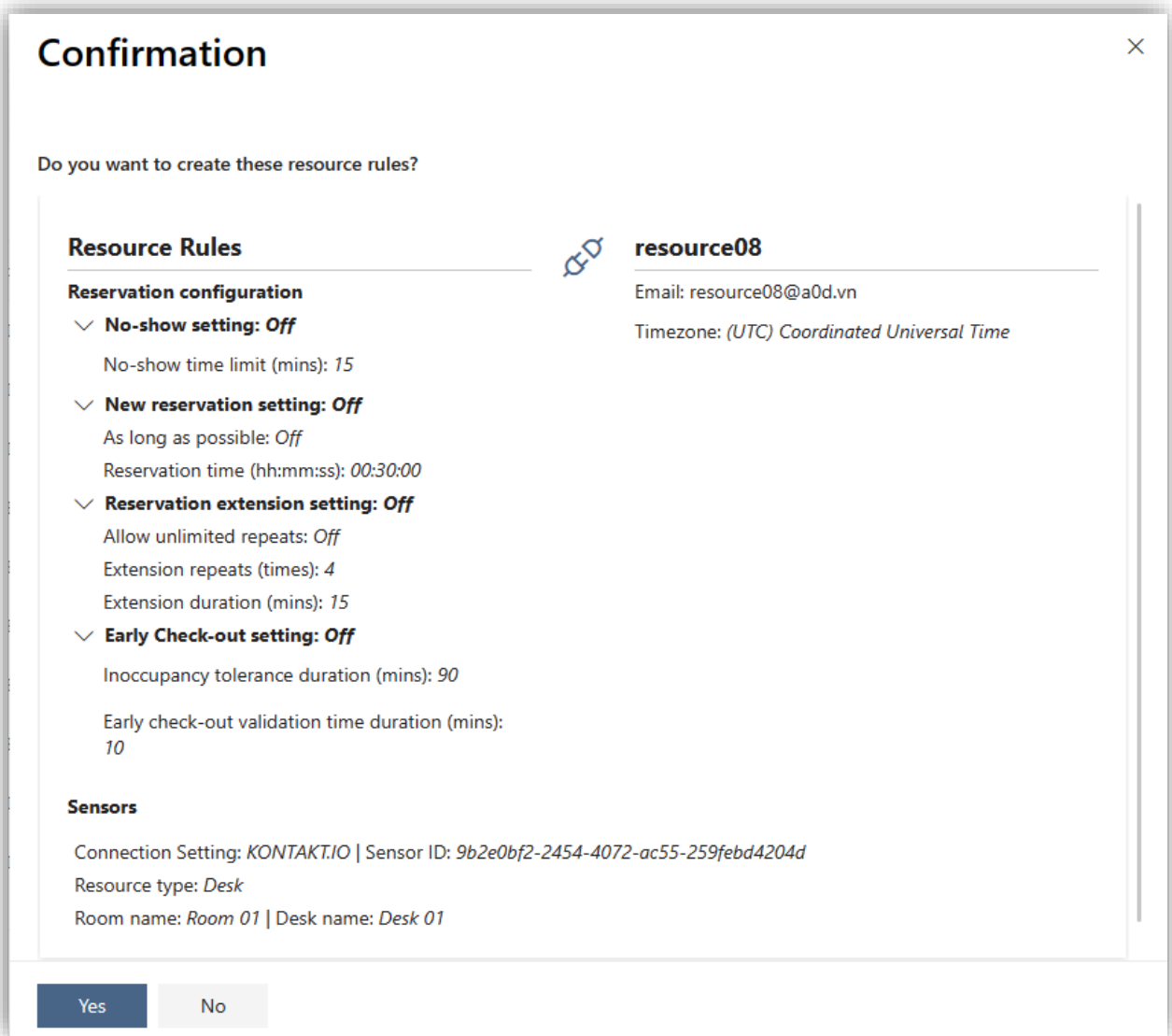


Figure 48. Add Resources Rules – Confirmation

This step allows you to review all the configurations made so far. If you want to reconsider your settings, click **[No]** to return to the previous step.

If you are done, click **[Yes]** to confirm the resource rules creation (and connect to the selected resource to the Sensor device if you have done so in step 3). You will then see a notification informing that your Resource rules are being created.

When the process is completed, you will receive another notification informing you that the Resource rules have been successfully created. And you will also see the new resource(s) added to the list on the Resource rules section.

- If the resource rules is attached with a sensor, after a certain time (Occupancy confirmation time (hh:mm:ss) specified in Sensor section), the Occupancy Status of that resource rules will switch from N/A to either Occupied or Unoccupied.
- If the resource rules is attached with no sensor, its Occupancy Status is N/A.

NOTE: When adding a Sensor that is associated with a resource, a new resource rule will be automatically created and attached to that resource. Refer to **Figure 39** in *Sensors* part for more details.

Update Resource Rules

To update the resource rules of a resource, you can click **Action** button of the resource to open the 'Update Resource Rules' screen, e.g.:

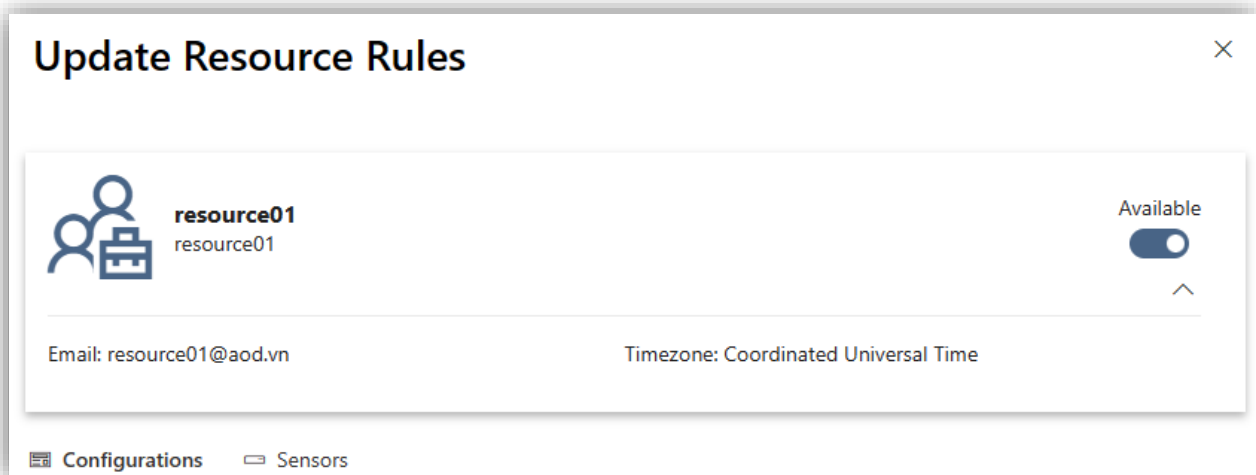
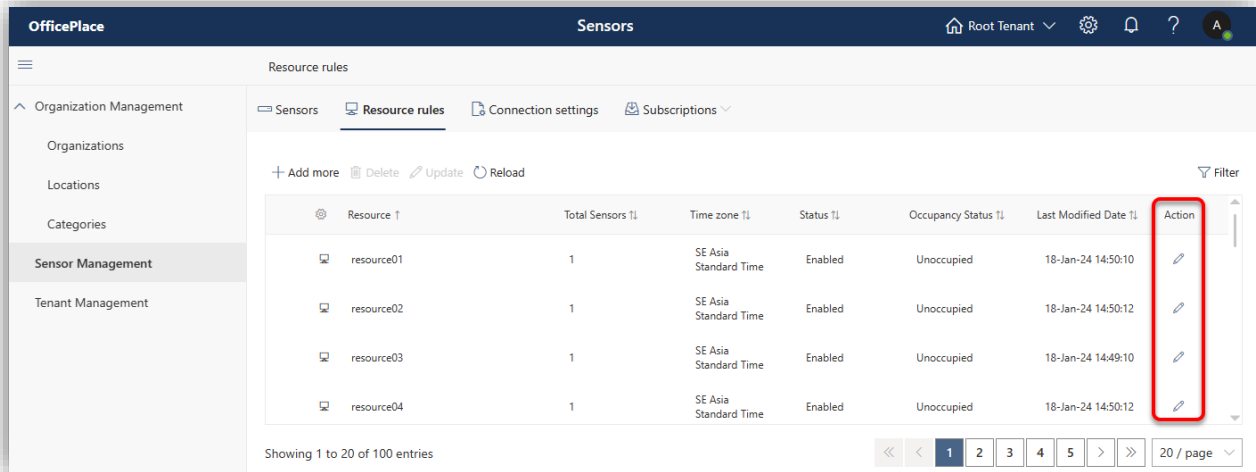


Figure 49. Update a single Resource Rule

This screen includes an overview of the resource including its name, email, and timezone. There is also the **[Available]** switch, in which if it is switched off: the Occupancy Status of that Resource Rules will switch to N/A.

Below the resource overview, there are:

- **Configurations** tab: where you can make changes to the resource rules. If you do not want to make changes to the Sensors, you can click **[Update]** to apply changes to the resource rules.

Configurations Sensors

Reservation configuration

No-show setting ?

No-show time limit (mins) ?

15

New reservation setting ?

Reservation time (hh:mm:ss)

00:30:00

As long as possible ?

Reservation extension setting ?

Allow unlimited repeats ?

Extension repeats (times)

4

Extension duration (mins)

Update Delete Cancel

Figure 50. Update a single Resource Rule - Configurations

- **Sensors** tab: where you can add/remove Sensor devices from the resource. Click on this tab will show all the Sensors that are connected to this resource, e.g.:

Configurations **Sensors**

+ Add more

Connection setting ↑	Sensor ID ↓	Operation ID	Room Name	Desk Name
No data available.				

Figure 51. Update a single Resource Rule - Sensors

In this example, this resource is not connected to any Sensor yet; therefore, it shows 'No data available'.

To add a Sensor, click **[Add more]** to show all the available Sensor devices. Select the Sensor device that you want to add to this resource, then click **[Save]**.

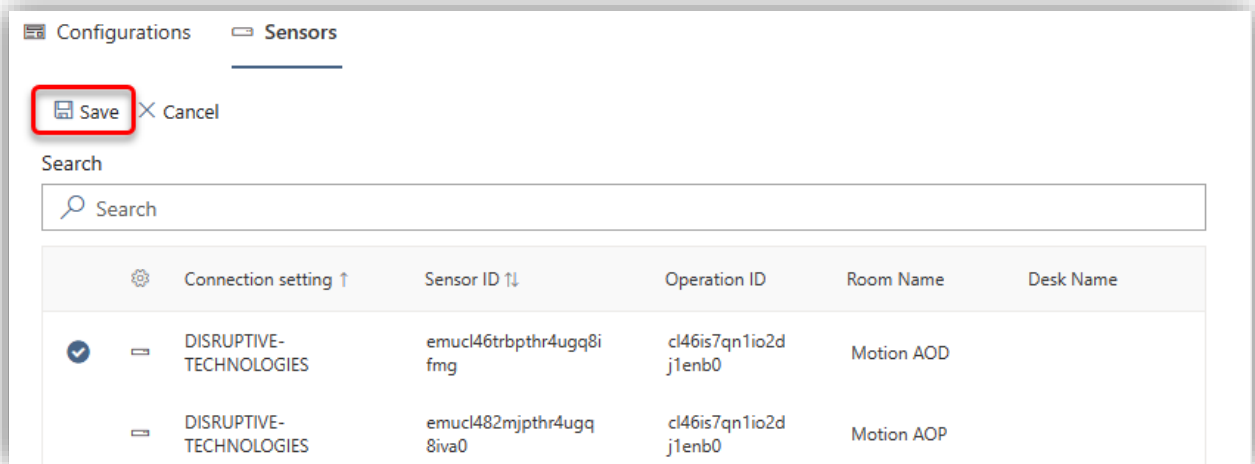


Figure 52. Update a single Resource Rule – Add Sensor

Press **[Yes]** to approve the addition when the following confirmation screen appears:

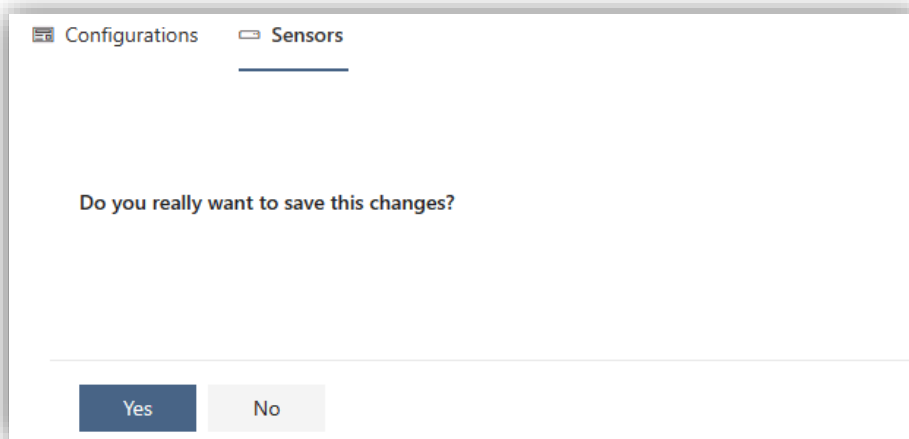


Figure 53. Update a single Resource Rule – Add Sensor Confirmation

To delete a Sensor, select it and click **[Delete]**, and a confirmation message will pop up:



Figure 54. Update a single Resource Rule – Delete Sensor

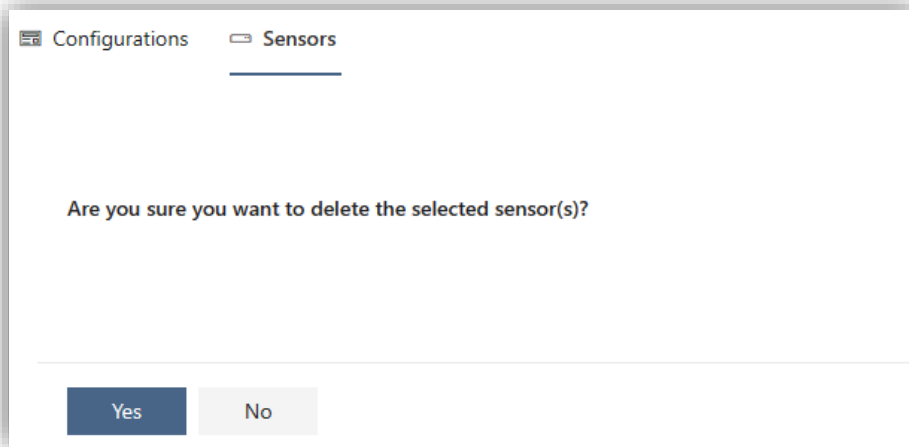


Figure 55. Update a single Resource Rule – Delete Sensor confirmation

Click [**Yes**] to confirm the removal.

NOTE: Please note that you do **NOT** need to go back to **Configurations** tab and click [**Update**] to apply the changes in **Sensors** tab.

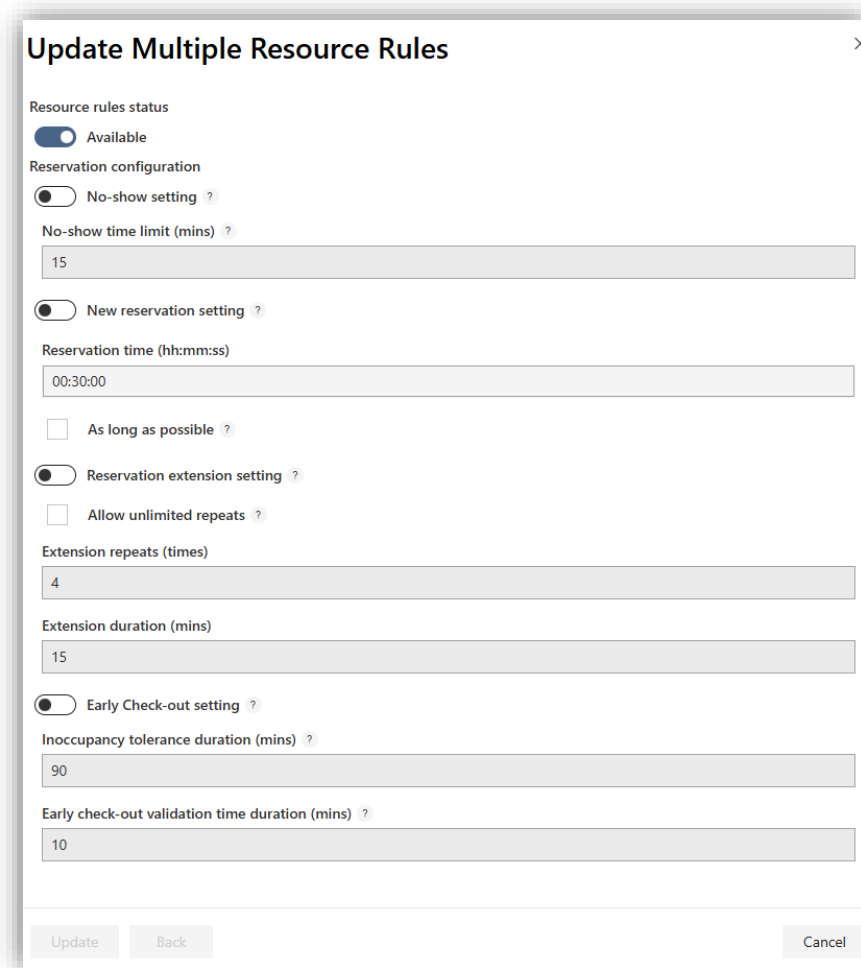



Figure 56. Edit Multiple Resource Rules.

You can update multiple resource rules by choosing them and clicking [**Update**] button on the 'Resource rules' section toolbar, it will open the 'Update Multiple Resource Rules' screen. Here, you can only update resource rules for all selected resources, but not the Sensor devices. You can change Sensor device if you update a single resource only.

Click [**Update**] to finish.

Delete Resource Rules

To remove the resource rule, choose it and click **[Delete]** on the toolbar or **Action** icon 

If the resource of that resource rule is connected to sensor(s), the confirmation screen will appear as below:

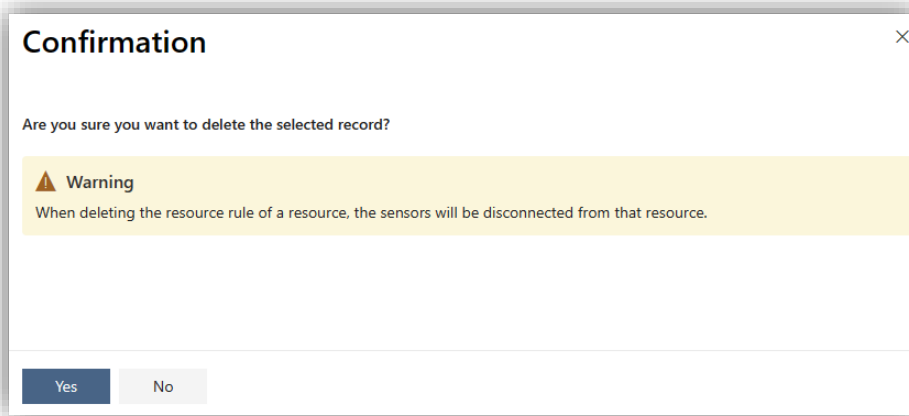


Figure 57. Resource Rules – Delete Confirmation

If the resource of that resource rule is not connected to sensor(s), the confirmation screen will appear as below:

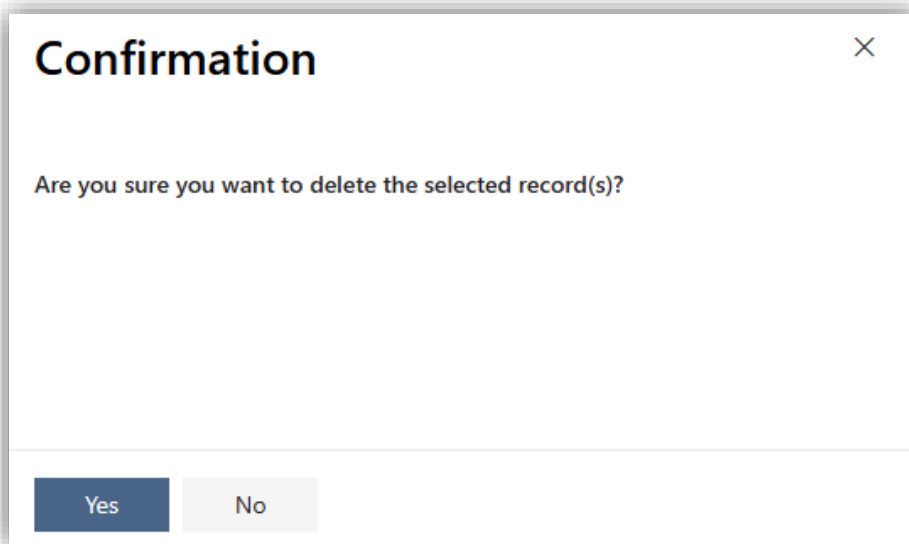


Figure 58. Resource Rules – Delete Confirmation

Click **[Yes]** to remove the resource rule(s).

NOTE: If a resource is deleted, the resource rule attached to that resource will be removed from the Resource Rules list under Sensor Management section.

Subscriptions

By default, **Subscriptions** tab is not displayed on Sensor Management interface. Refer to **OfficePlace Administrator Guide** to learn how to make it visible:

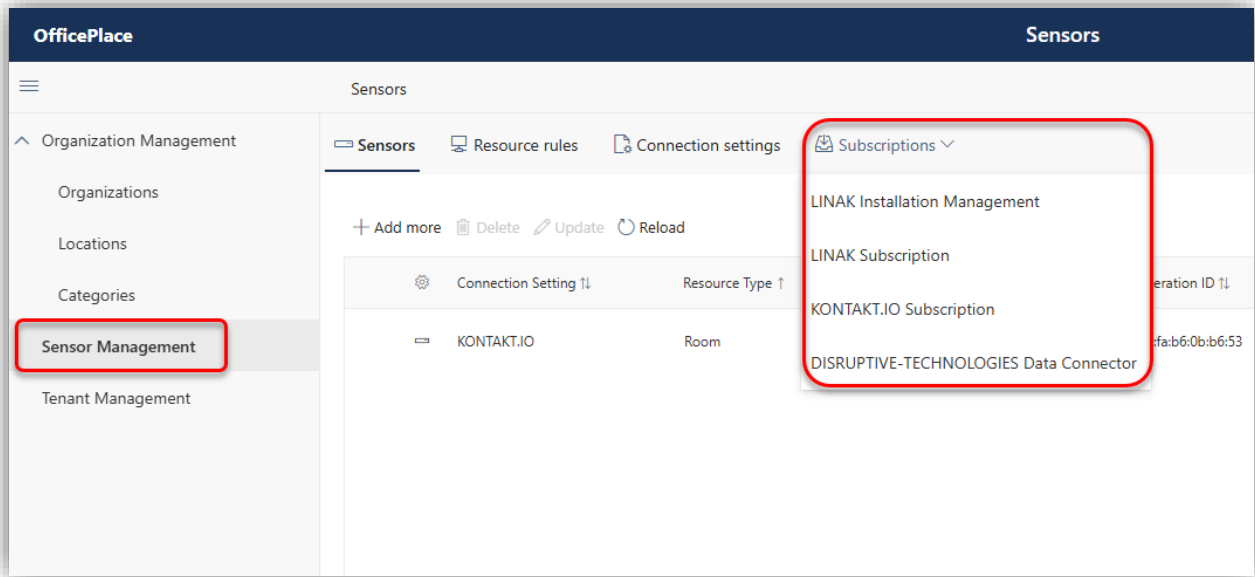


Figure 59. Sensor Subscriptions section

LINAK Installation Management

In this section, you can create new Linak Installation to get Installation ID and Installation Token for Linak configuration. Click on **Subscriptions** tab and navigate to **LINAK Installation Management**.

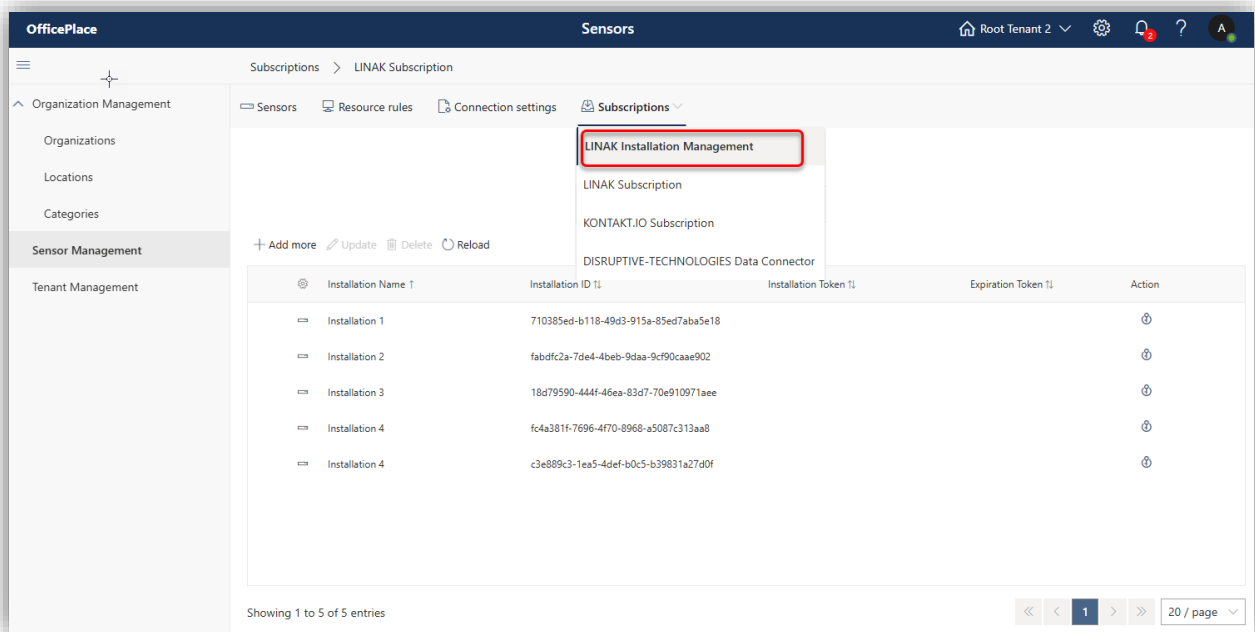


Figure 60. LINAK Installation Management interface

Toolbar Buttons	Description
Add more	Create new Installation.

Delete	Delete the selected Installation.
Update	Update name for the selected Installation.
Reload	Refresh the Installation list.

Add Installation

Clicking **[Add more]** button to open the 'Create Installation' screen.

If you have neither Installation ID nor Installation token, select '**Create new Installation ID**' option. Here, enter the name for Installation.

Figure 61. Create Installation

If you already had an Installation ID but not Installation token, please select '**Add existing Installation ID**' option and enter the Installation ID that you own.

Figure 62. Create Installation with existing Installation ID

Click **[Create]** and the confirmation screen assembling the below figure will emerge:

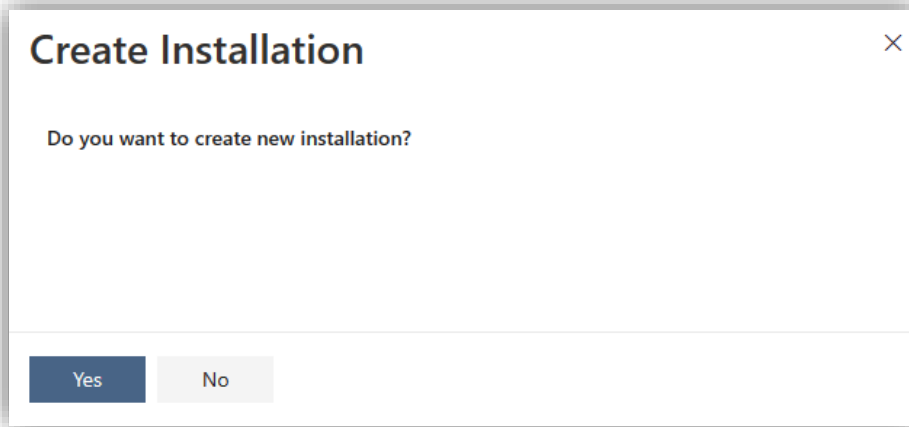


Figure 63. Create Installation - Confirmation

Press [Yes] to approve.

- Then, the added Installation will be displayed on Linak Installation Management panel. You can notice that the Installation ID is automatically generated for you (if you select 'Create new Installation ID' option)
- The name of the existing Installation ID is automatically filled in (if you select 'Add existing Installation ID' option).

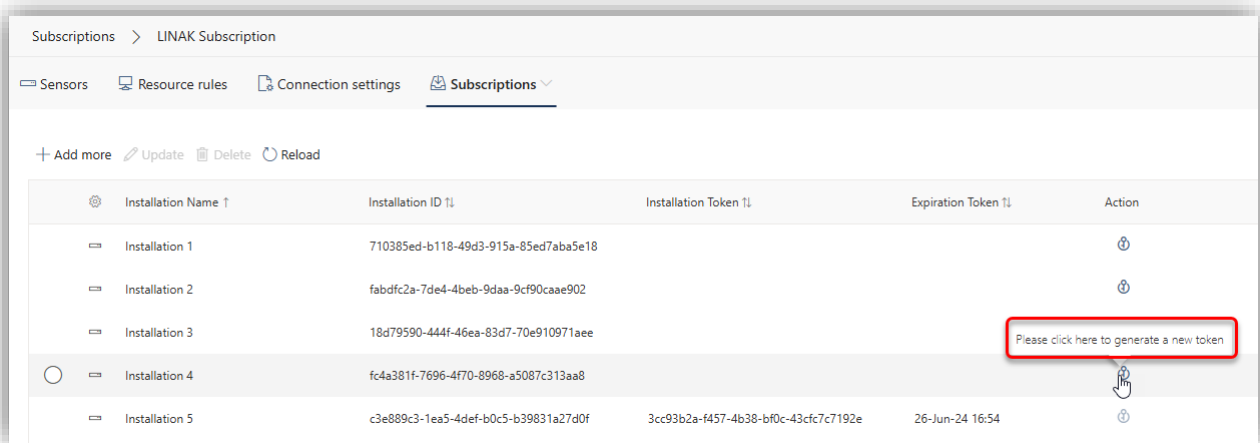


Figure 64. Generate Installation token

Next, to generate an Installation token, please click on the Action button of that Installation. The system will send you a confirmation message as the below figure:

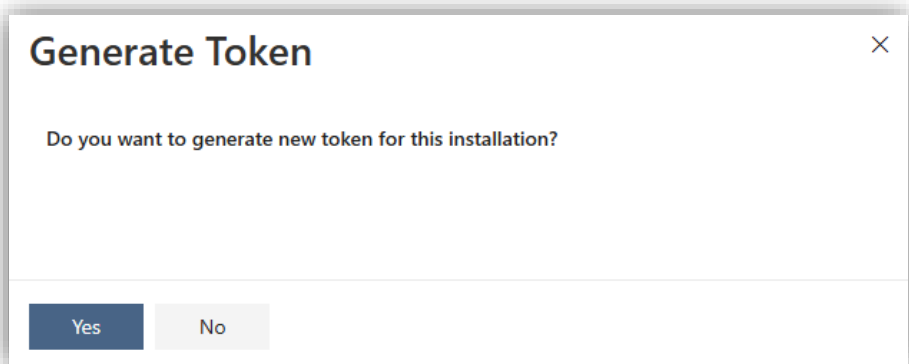


Figure 65. Generate Token - Confirmation

Click **[Yes]** to confirm. After that, the new Installation token is generated and expires in 30 days. You can regenerate a new installation token up until the last day of the token's term.

Installation Token ↑↓	Expiration Token ↑↓	Action
		🔄
		🔄
		🔄
<div style="border: 1px solid red; padding: 2px; display: inline-block;">You cannot generate a new token until 1 day before expiration date.</div>		
3cc93b2a-f457-4b38-bf0c-43cfc7c7192e	26-Jun-24 16:54	🔄

Update Installation

In case you want to update an Installation, click on 'Update' button on the toolbar to open its 'Update Installation' screen, e.g.:

Update Installation ? ✕

Installation Name *

Update
Cancel

Figure 66. Update Installation

You are able to modify the Installation Name only. Click **[Update]** and the following confirmation will emerge:

Update Installation ✕

Do you want to save your change(s)?

Yes
No

Figure 67. Update Installation - Confirmation

Select **[Yes]** to update.

Delete Installation

If the Installation you want to delete has no attached Sensor **and** has not been added to any Connection Setting, you can delete that Installation.

To remove that Installation, select it and click [**Delete**] on the toolbar. The 'Confirmation' screen will assemble the below figure:

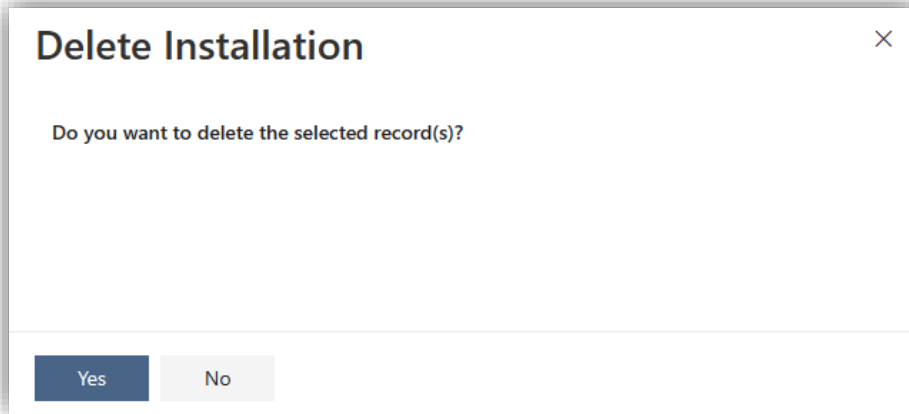
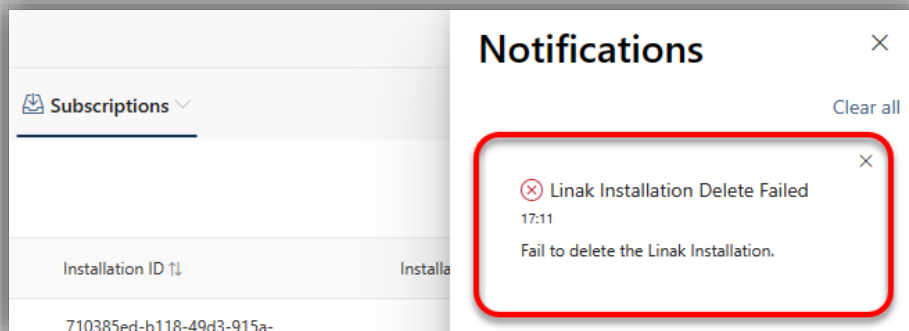


Figure 68. Delete Installation - Confirmation

Click [**Yes**] to finish the removal.

NOTE: You cannot delete an Installation if that Installation has attached Sensor(s) **or/and** has been added to a Connection Setting. If you attempt to delete it, a failure notification will be sent to you:



LINAK Subscription

This subscription is used to automatically obtain real-time data from Linak sensors whenever there is a change observed without user's request.

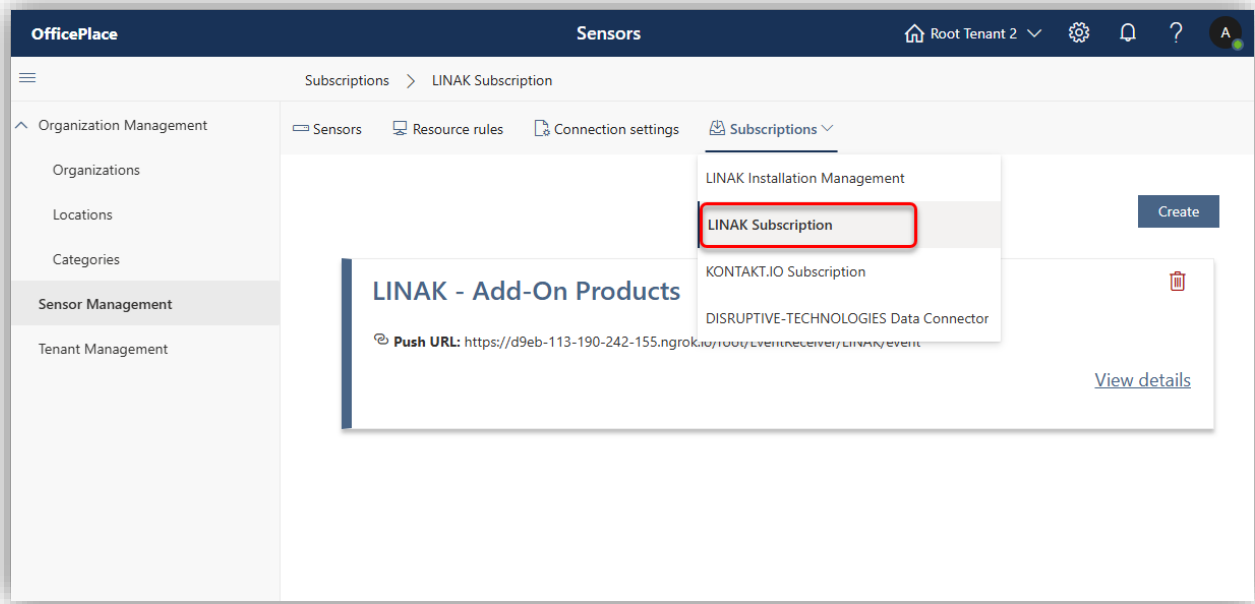


Figure 69. Linak Subscription interface

Add LINAK Subscription

Click on **[Create]** button on the upper right to start adding data connector and the following screen will appear:

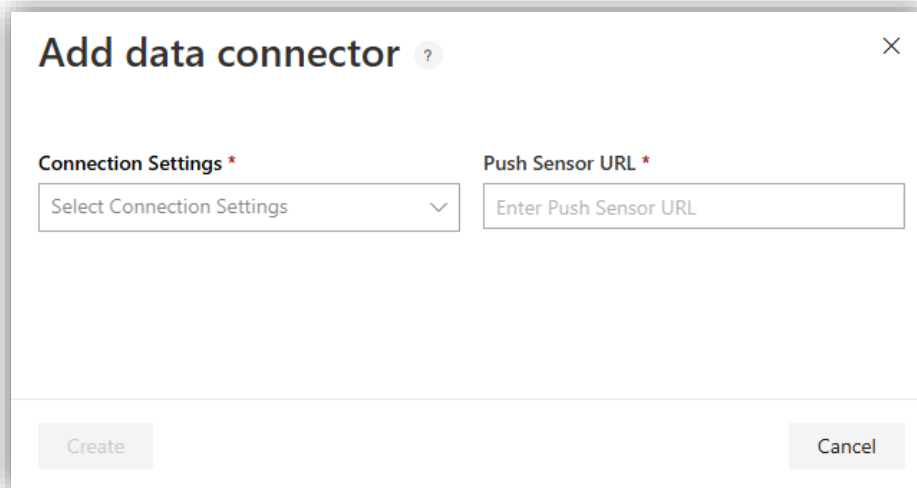


Figure 70. Add data connector

Fields	Description
Connection Setting	Type of connection setting.
Push Sensor URL	URL used to obtain Sensor device data automatically from the manufacturer without Pull request.

NOTE: You can create a Linak subscription only if Linak connection setting is available. With each Linak connection setting, you can only create one Linak subscription.

When you have filled all the fields, click **[Create]**. A confirmation screen will show up, choose **[Yes]** to confirm the creation. You will see a notification informing that the data connector is being added. And when the process is completed, you will receive another notification informing the successful creation.

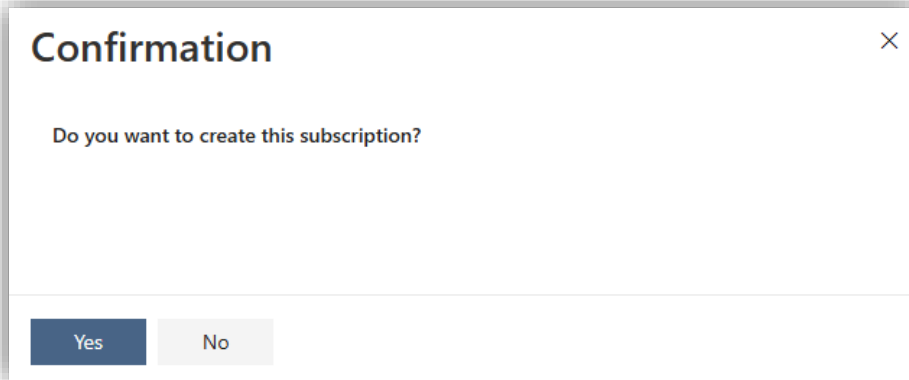


Figure 71. Add subscription - Confirmation

Update LINAK Subscription

If you would like to update a data connector, click **[View Details]** of its connector to open the update data connector screen similar as follows:

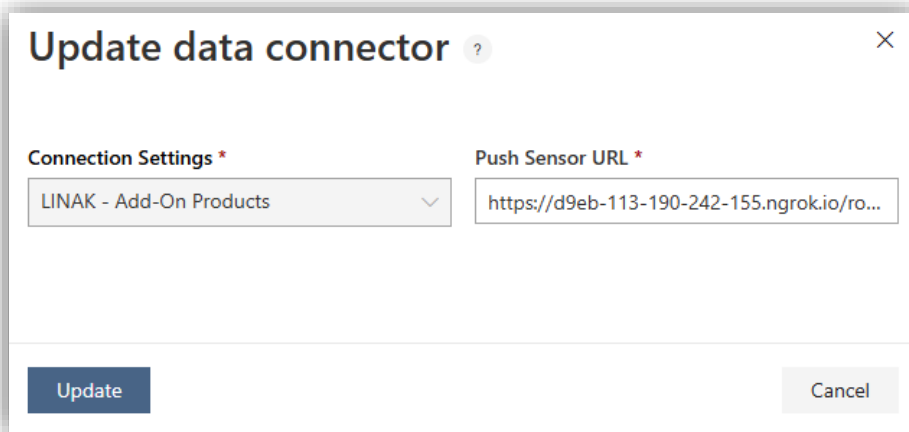


Figure 72. Update data connector

You are only allowed to modify the 'Display Name' field. Click **[Update]** and a confirmation will emerge assembly the below figure:

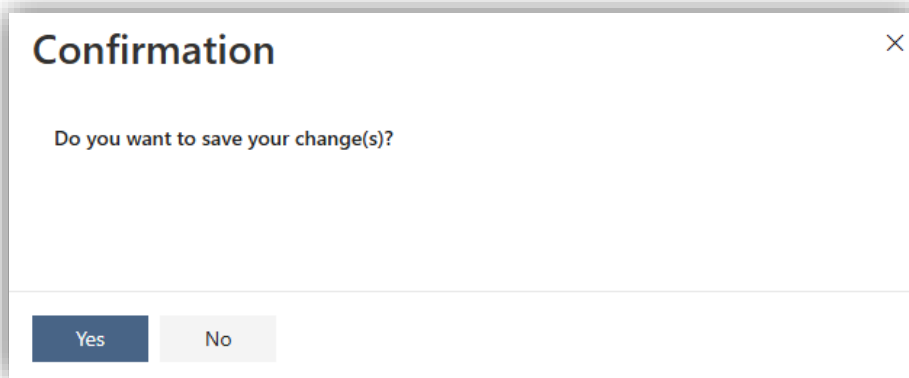



Figure 73. Update data connector - Confirmation

Select **[Yes]** to save your modifications.

Delete LINAK Subscription

To delete a data connector, click on  icon on the upper right corner of that data connector and a message will be displayed to confirm your removal request:

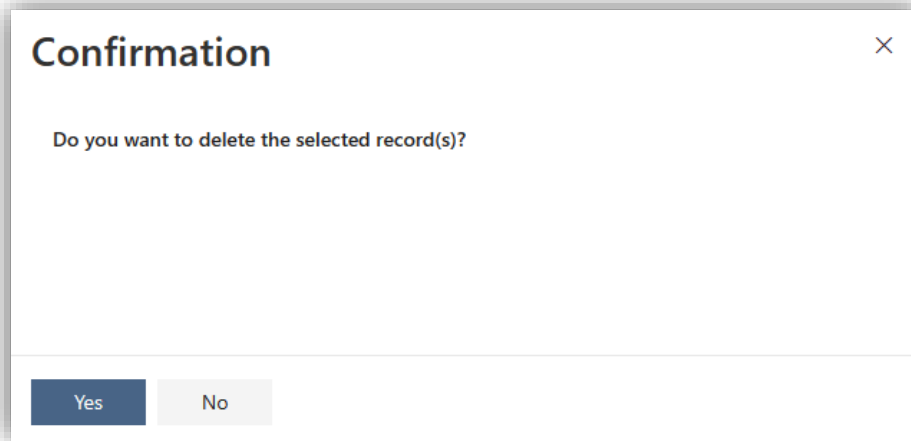


Figure 74. Delete data connector - Confirmation

Click **[Yes]** to confirm.

KONTAKT.IO Subscription

This subscription is used to automatically obtain real-time data from Kontakt.IO sensors whenever there is a change observed without request from user.

Configure Channel

To be able to create a new subscription for Kontakt.IO, you must add a Channel for the subscription beforehand.

Under **Sensor Management** section, select **Kontakt.IO Subscription** tab:

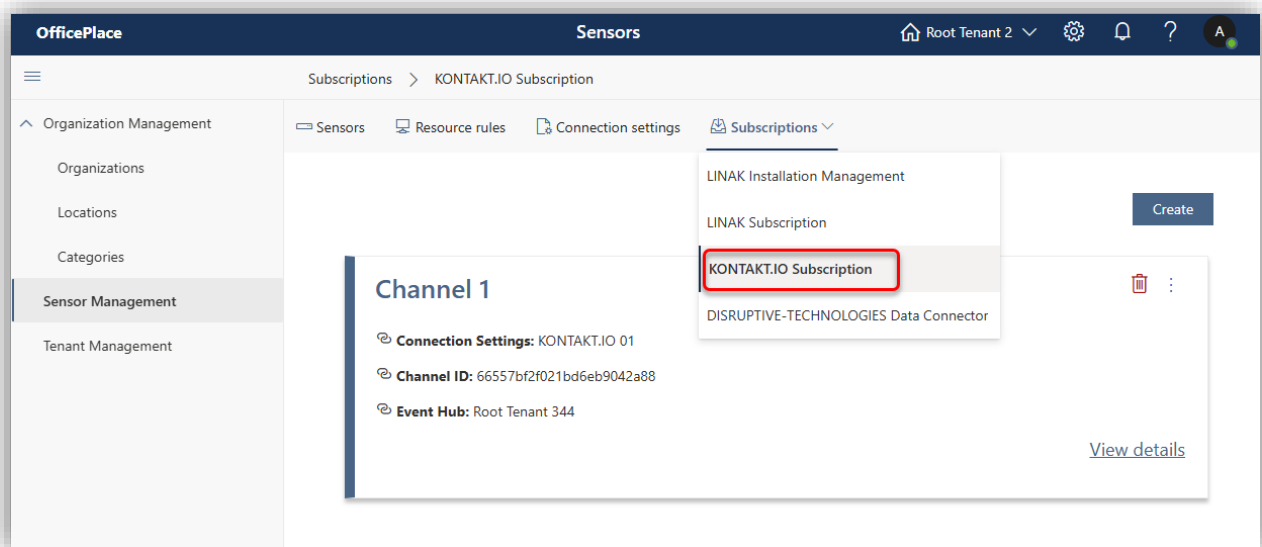


Figure 75. Kontakt.IO Subscription interface

Click on **[Create]** button to open the following screen:

Create new channel ?

Connection Settings *
Select Connection Settings

Channel Name *
Enter Channel Name

Event Hub *
Enter Event Hub

Create Cancel

Figure 76. Create new channel

Fields	Description
Connection Settings	Select a Connection Setting.
Channel Name	Name of Channel.
Event Hub	A cloud native data streaming service. The Event Hubs are configured by the manufacturer.

After filling out all fields, press [**Create**] at the bottom of the screen and the following confirmation screen appears:

Confirmation ×

Do you want to create this channel?

Yes No

Figure 77. Add subscription - Confirmation

Click [**Yes**] and your new channel will be displayed on the channel list.

NOTE: You can create a channel only if Kontakt.IO connection setting is available. With each Kontakt.IO connection setting, you can create one channel only.

To update a Channel, click [**View Details**] on bottom right to open the update channel screen similar as follows:

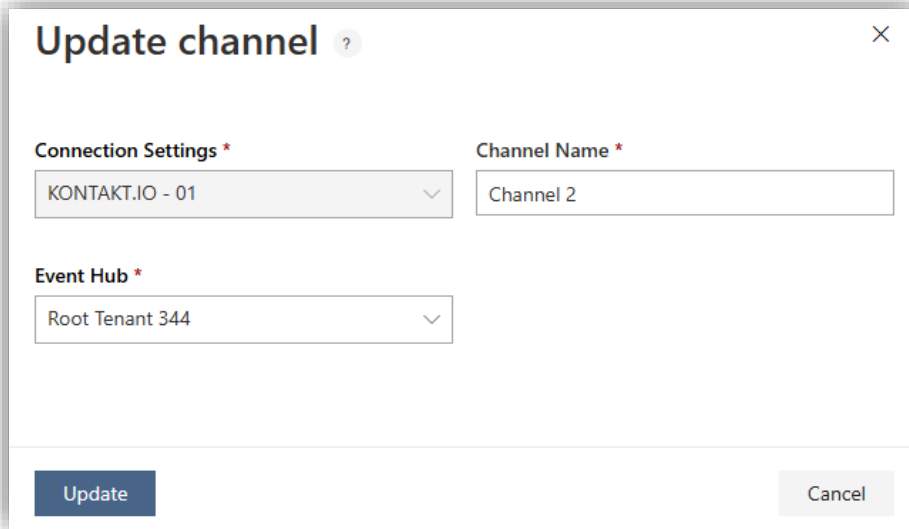


Figure 78. Update channel

You can update all the available fields except for “Connection Settings”. When you are done, click [**Update**]. The ‘Confirmation’ screen as below would appear:

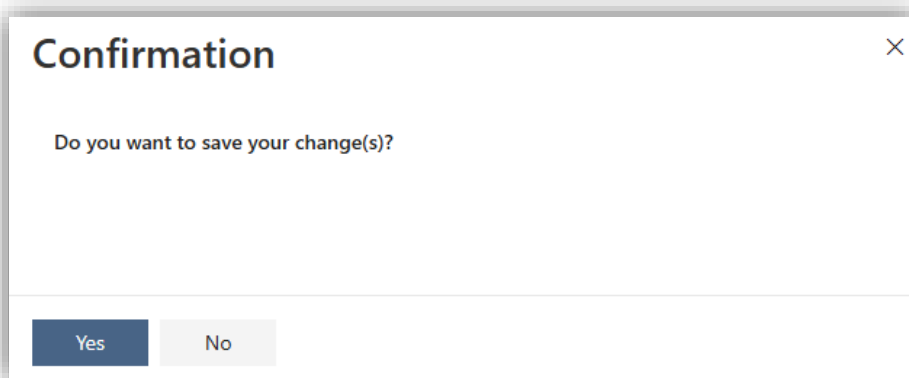



Figure 79. Update confirmation

Click [**Yes**] to finish.

To delete a channel, click on  icon on the right of that channel. The ‘Confirmation’ screen similar as follows would appear:

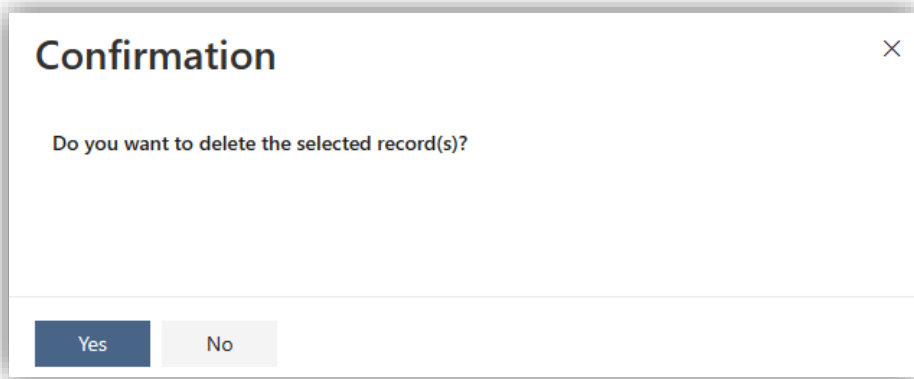




Figure 80. Delete confirmation

Click [**Yes**] to delete, [**No**] to cancel deleting.

Create subscription

After creating/updating a channel, you now can add Kontakt.IO subscription to that channel. There are two cases after you creating a new channel:

Click on More Actions  near the Delete icon  and select [**Verify Connection**].

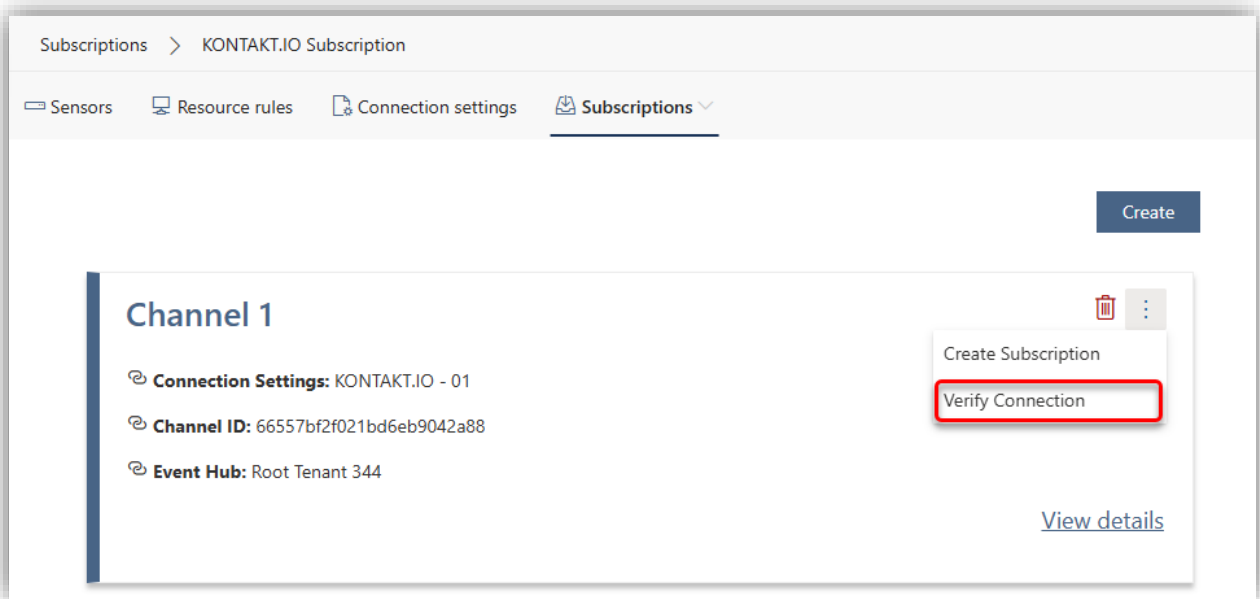


Figure 81. Verify connection

- If the Connection State is 'CONNECTED', it means Kontakt.IO subscription has been automatically added to your Channel. No more actions need to be taken.

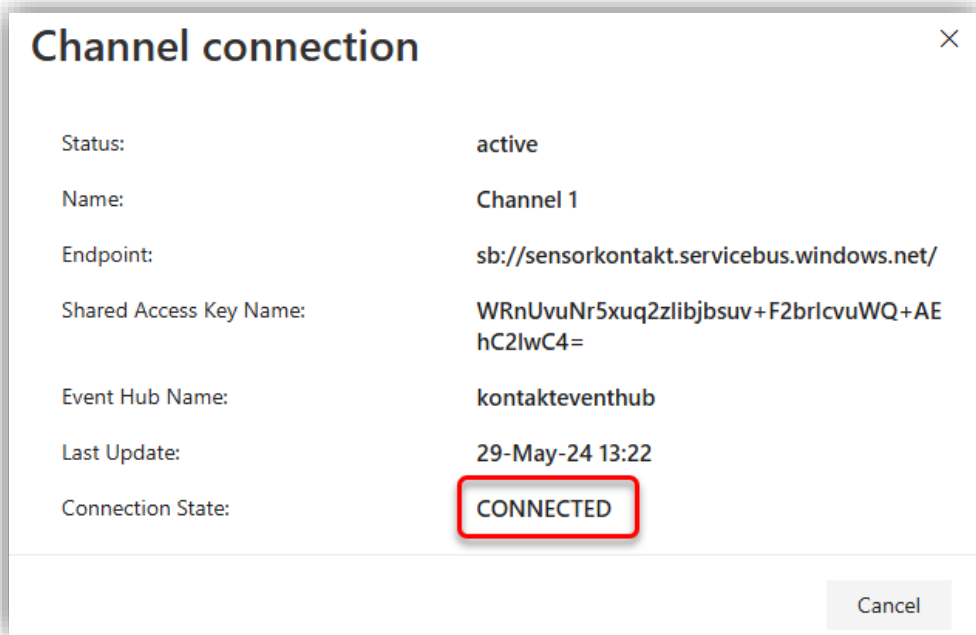


Figure 82. Connection State - Connected

- If the Connection State is 'DISCONNECTED', it means you must create subscription manually.

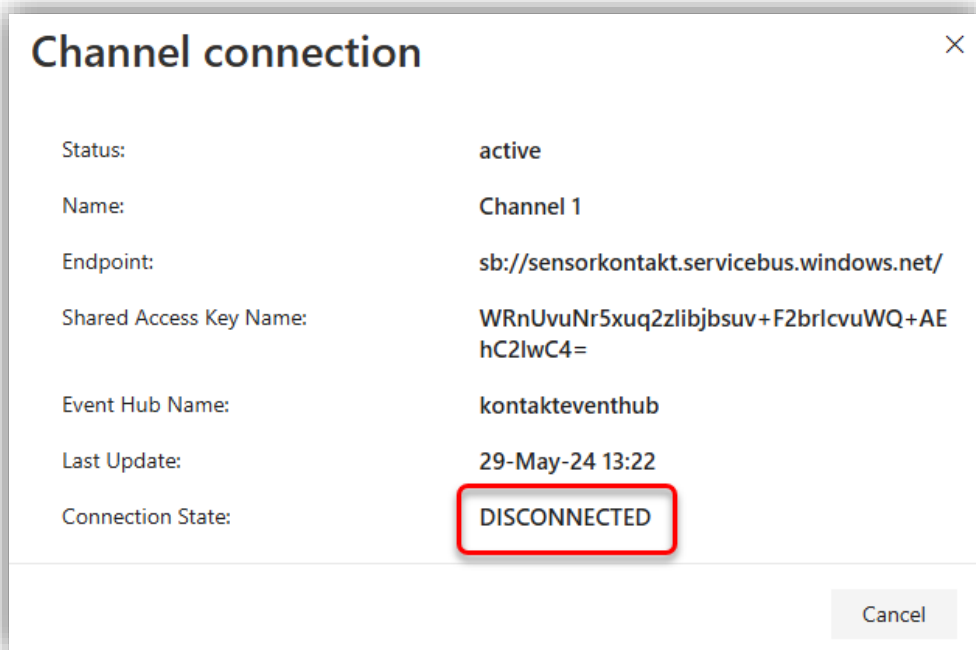


Figure 83. Connection State - Disconnected

On the Kontakt.IO subscription list, select More Actions  on the right of the channel you would like to add subscription → **[Create Subscription]**.

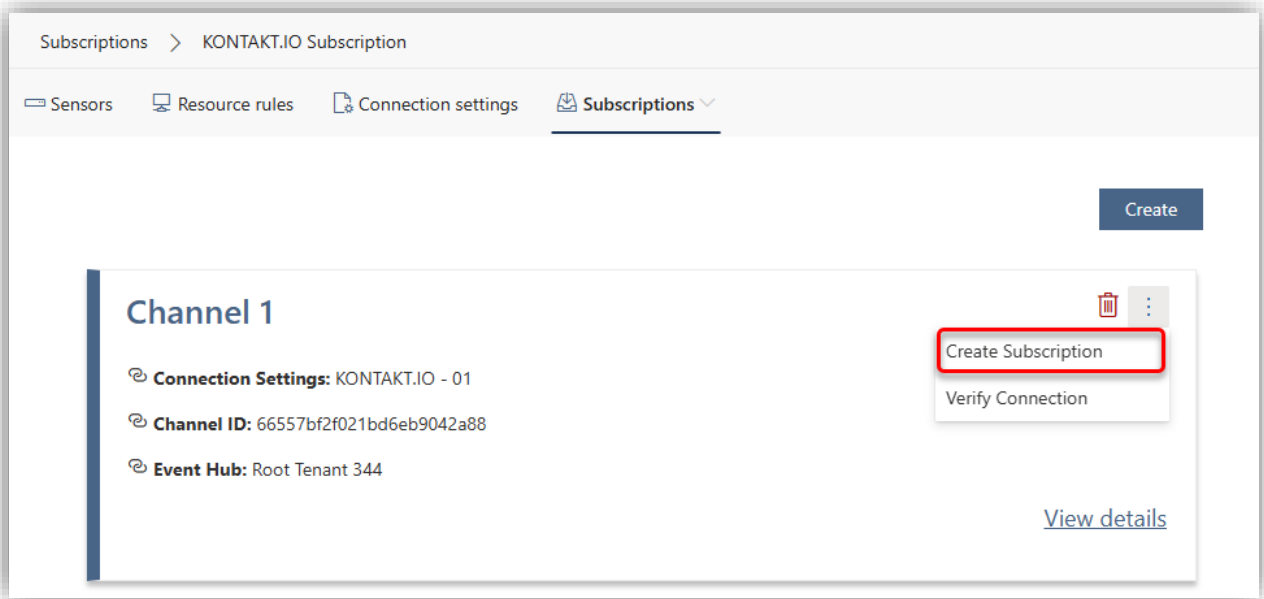


Figure 84. Manually create subscription

The system would send you a confirmation message as the below figure. Choose [Yes] to finish.

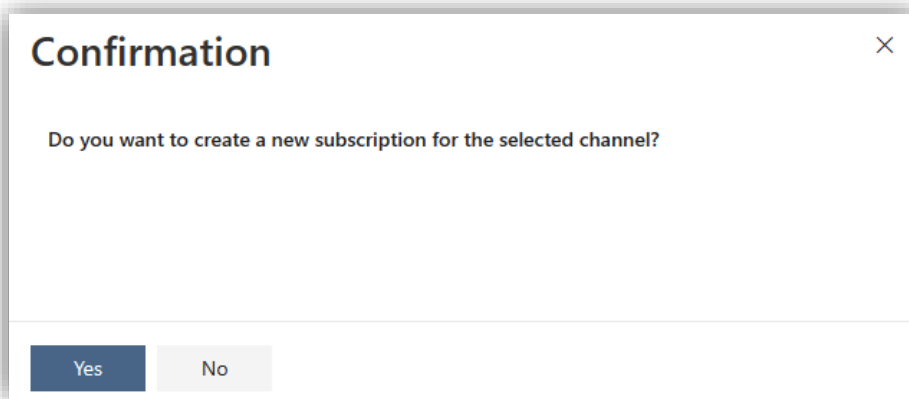


Figure 85. Create subscription confirmation

After adding subscription manually, you can select [**Verify connection**] again and notice that the Connection State is now switched to 'CONNECTED'. Now you have successfully created the subscription for Kontakt.IO.

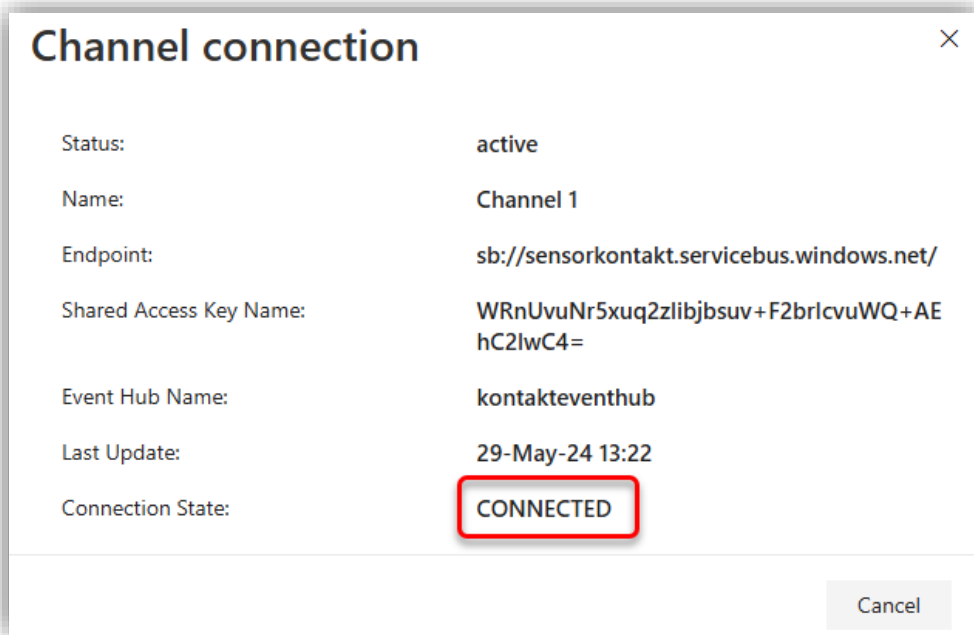


Figure 86. Create subscription successfully

- If the Connection State is 'INVALID', it means you have entered invalid value to the field(s). Update the channel and then re-verify the connection. If you still attempt to create subscription for an invalid channel, no subscription will be created.

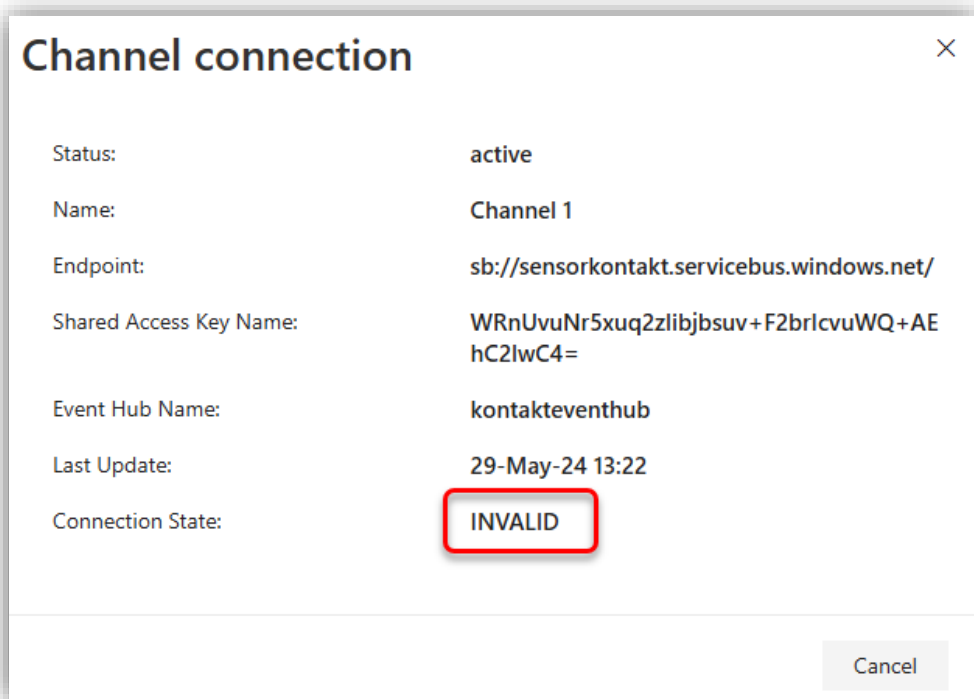


Figure 87. Connection State - Invalid

NOTE: A channel can only be connected to one subscription. If you click [**Create subscription**] for a channel that already has a subscription, the system would delete that existing subscription and replace it with a new one.

DISRUPTIVE-TECHNOLOGIES Data connector

This data connector is used to automatically obtain real-time data from Disruptive-Technologies sensors whenever there is a change observed without request from user.

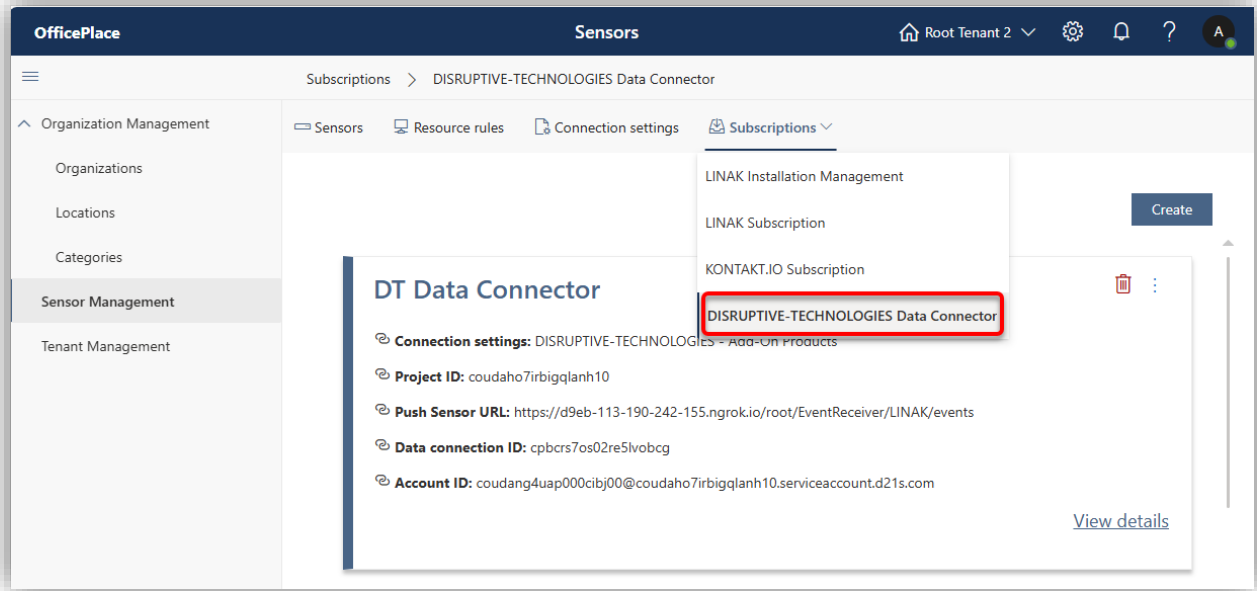


Figure 88. Disruptive-Technologies Data connector interface

Add DISRUPTIVE-TECHNOLOGIES Data connector

Click on **[Create]** button on the upper right to start adding data connector and the following screen will appear:

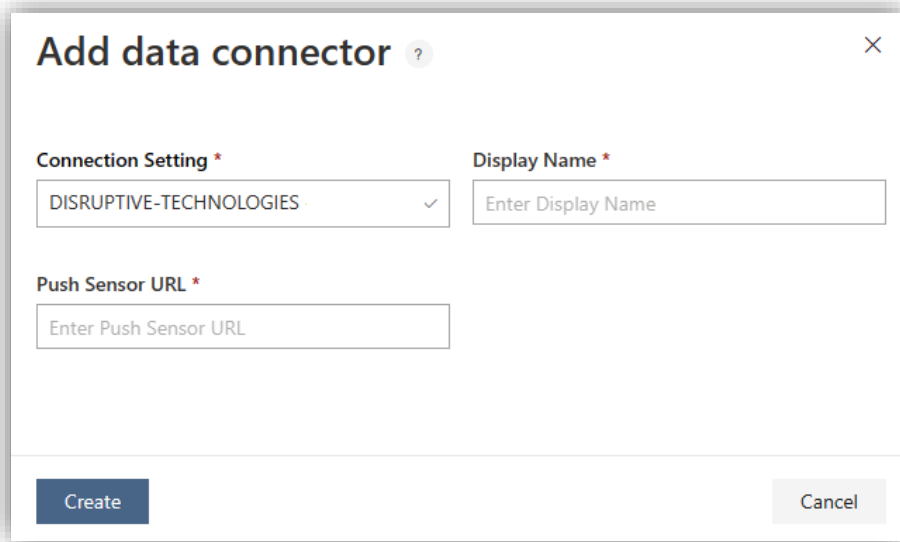


Figure 89. Add data connector

Fields	Description
Connection Setting	Type of connection setting.
Display Name	Name of data connector.
Push Sensor URL	URL used to obtain Sensor device data automatically from the manufacturer without Pull request.

NOTE: You can create Disruptive-Technologies Data connector only if DT connection setting is available. With each DT connection setting, you can create one data connector.

When you have filled all the fields, click **[Create]**. A confirmation screen will show up, choose **[Yes]** to confirm the creation. You will see a notification informing that the data connector is being added. And when the process is completed, you will receive another notification informing the successful creation.

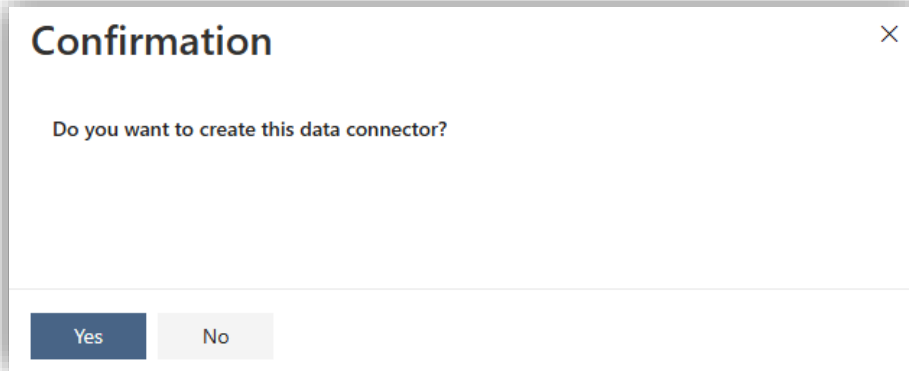


Figure 90. Add data connector - Confirmation

Update *DISRUPTIVE-TECHNOLOGIES* Data connector

If you would like to update a data connector, click **[View Details]** of its connector to open the update data connector screen similar as follows:

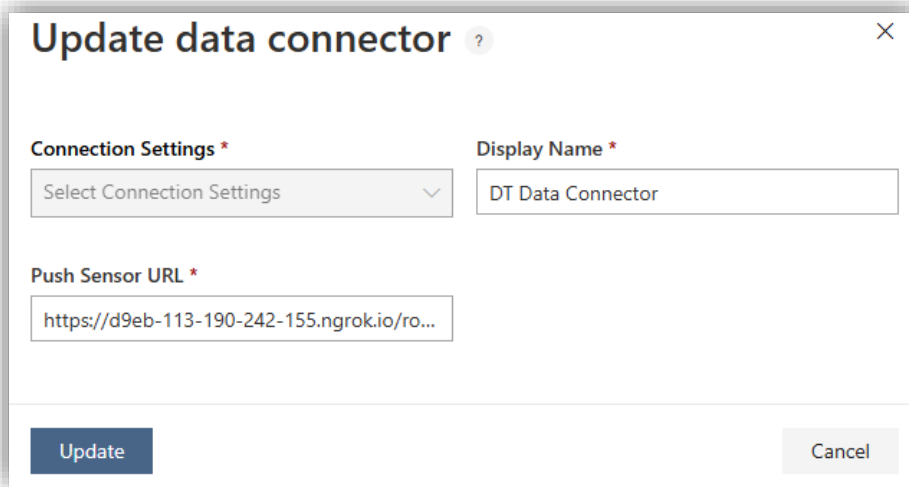


Figure 91. Update data connector

You are only allowed to modify the 'Display Name' and 'Push Sensor URL' fields. Click **[Update]** and a confirmation will emerge assembly the below figure:

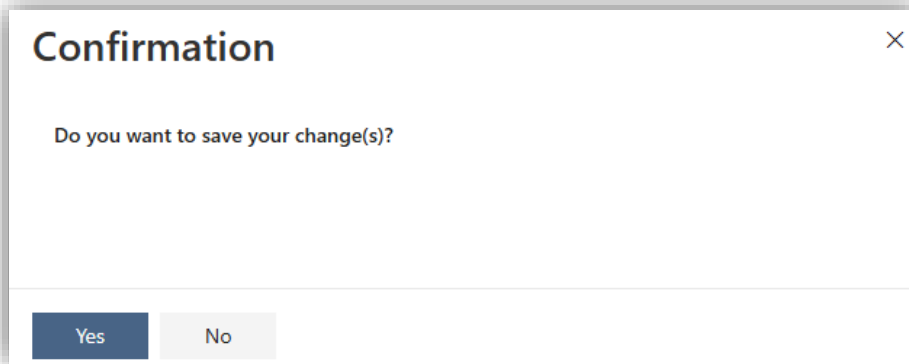



Figure 92. Update data connector - Confirmation

Select [**Yes**] to save your modifications.

Delete DISRUPTIVE-TECHNOLOGIES connector

To delete a data connector, click on  icon on the upper right corner of that data connector and a message will be displayed to confirm your removal request:

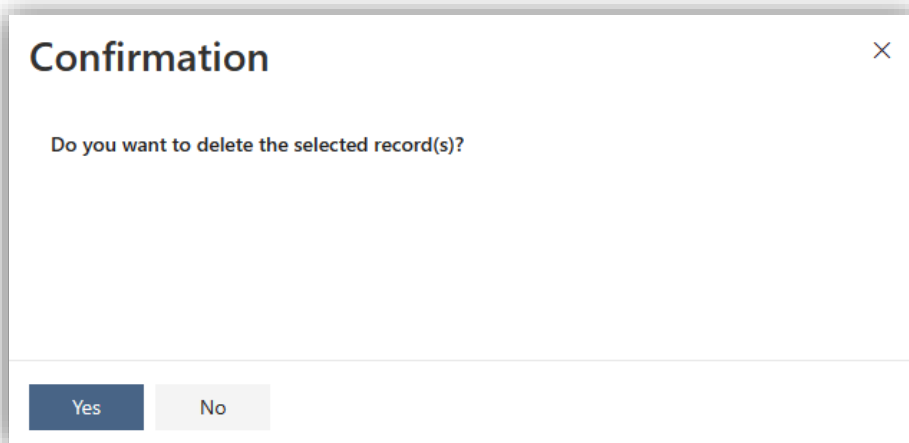


Figure 93. Delete data connector - Confirmation

Click [**Yes**] to finish the removal.

CHAPTER 3. Appendices

Appendix A: Retrieve details for DISRUPTIVE-TECHNOLOGIES connection setting

Follow these steps to retrieve details for Disruptive-Technologies:

Step 1: Navigate to [DT Studio](#) and sign in to your account → Go to your Project or create a new one → **API Integrations** → **Service Accounts** → **Add Service Account** → **ADD**.

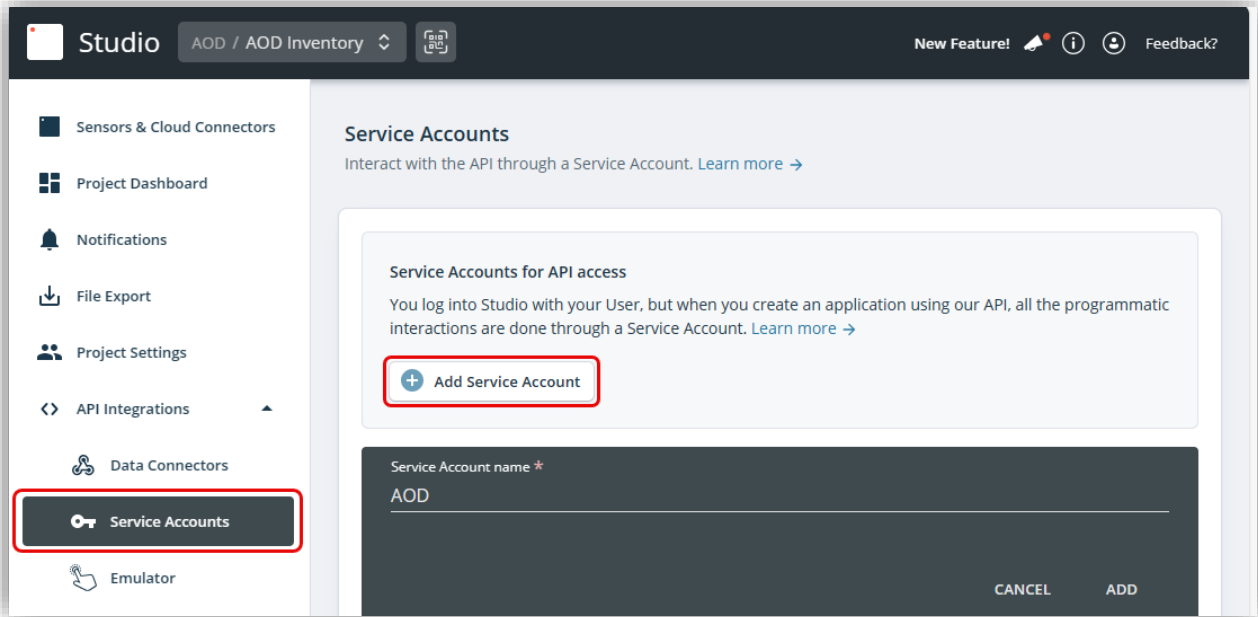


Figure 94. Add Service Account

Step 2: Click on the Service Account just created, you can edit the display name, and select role for this account. The role is what determines which actions user has permission to perform within the project or organization. It is recommended that you select 'Project developer' role for full editing permission.

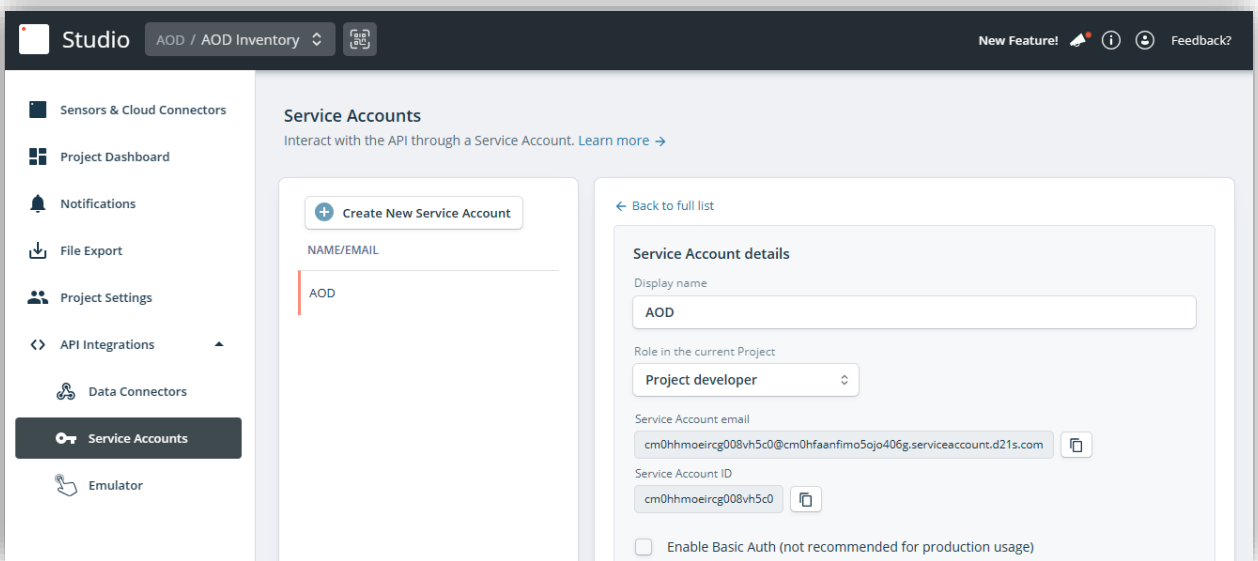


Figure 95. Retrieve Service Account details

From this screen, you can retrieve following details:

- **Name:** retrieved from Display name.
- **Project ID:** retrieved from Service Account ID.
- **Service Account email**

On the Active Keys section, click [**Create new**] and a pop-up named 'Created Key Details' will be displayed:

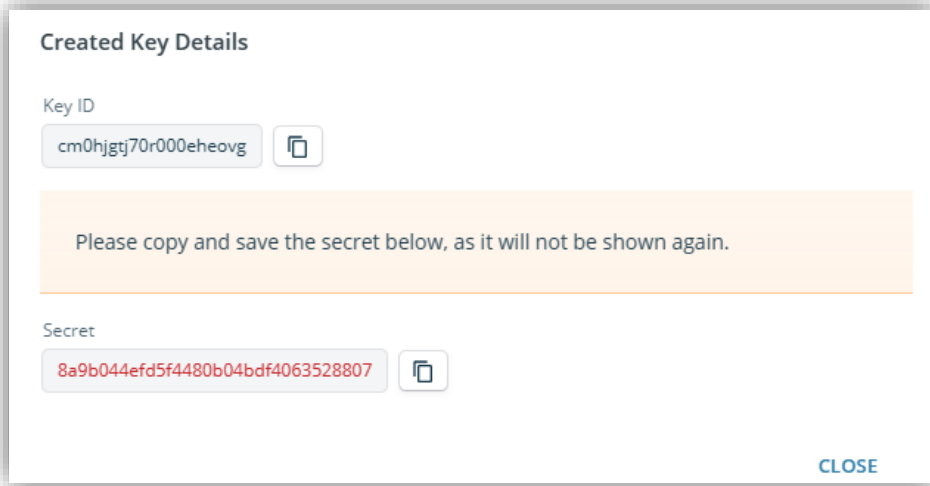


Figure 96. Retrieve Key details

Here, you can retrieve 2 other details:

- **Key ID**
- **Key Secret:** retrieved from Secret value.

NOTE: Remember to copy the key secret value right after creating Key Details because it will not be shown again once you close this pop-up.

Appendix B: Retrieve API Key for KONTAKT.IO connection setting

Open the browser and navigate to the address of the web server where [Kio Cloud](#) is hosted. Sign in with your account and the following interface will appear:

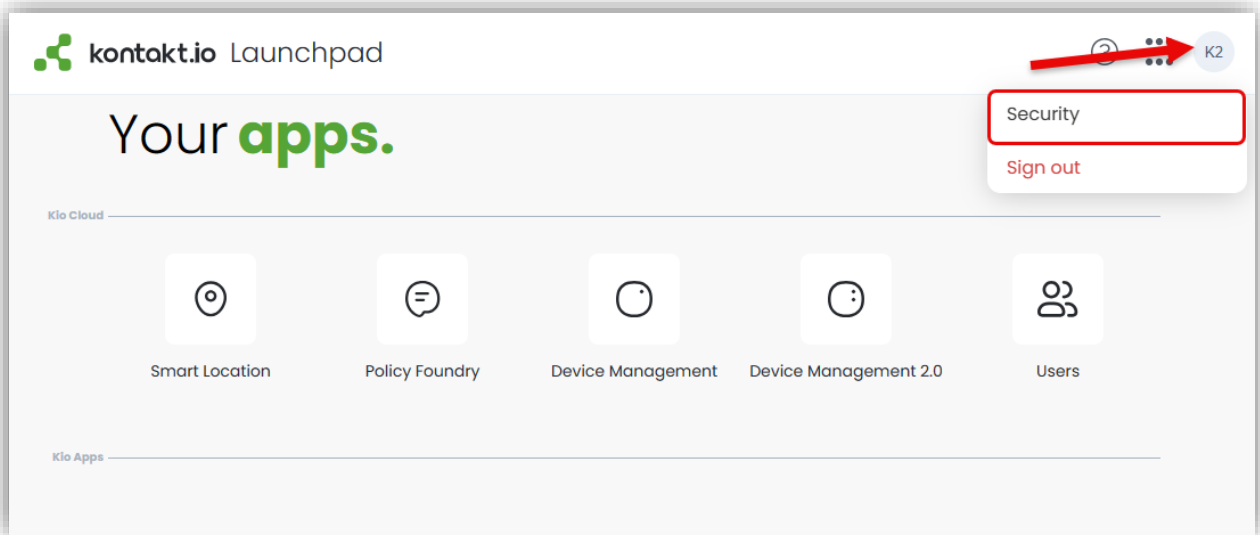


Figure 97. Kio Cloud → Security

Click on your user profile icon on the upper right corner of the screen and select [**Security**]:

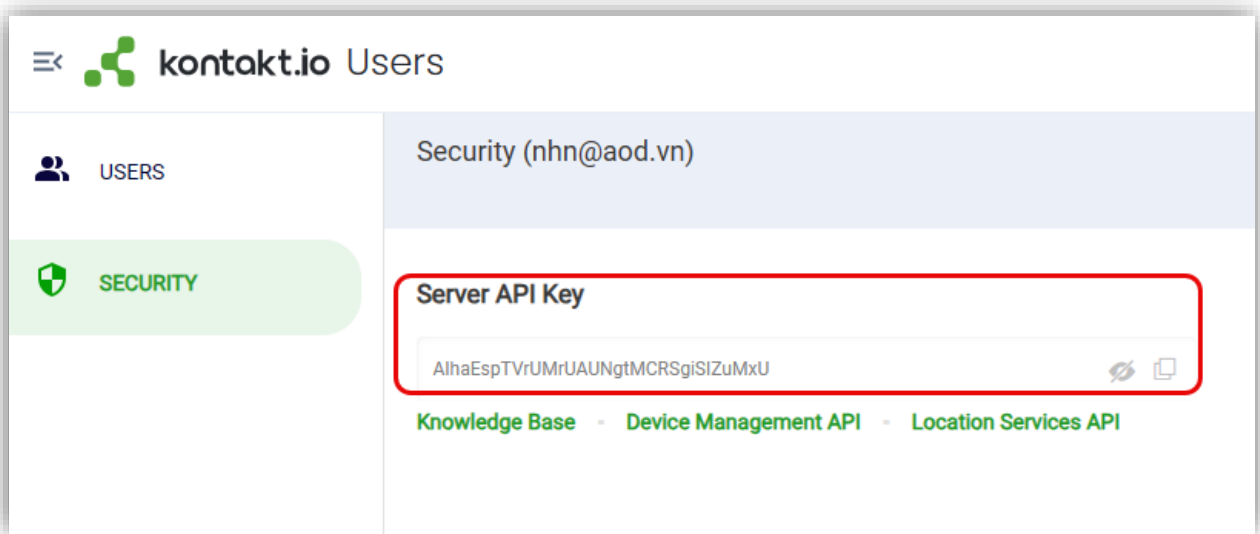


Figure 98. Retrieve API Key for Kontakt.IO

Here, you can retrieve and copy the **Server API Key** for Kontakt.IO connection setting.