



Documentation of Comosintegration

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Intro



The Comosintegration application provides automatic updating of data in the Comos application based on data stored in the Mindsphere database. Simple application tools enable you to create and manage value mappings between the two databases. With the Comosintegration application, you have the guarantee that your data will always correspond to the current state of your device.

Prerequisites

Subscription/License

Valid MindAcces IoT Value Plan (Small/Medium/Large) subscription.

Valid license of CIS:15333 and CIS:15301 of Comos application.



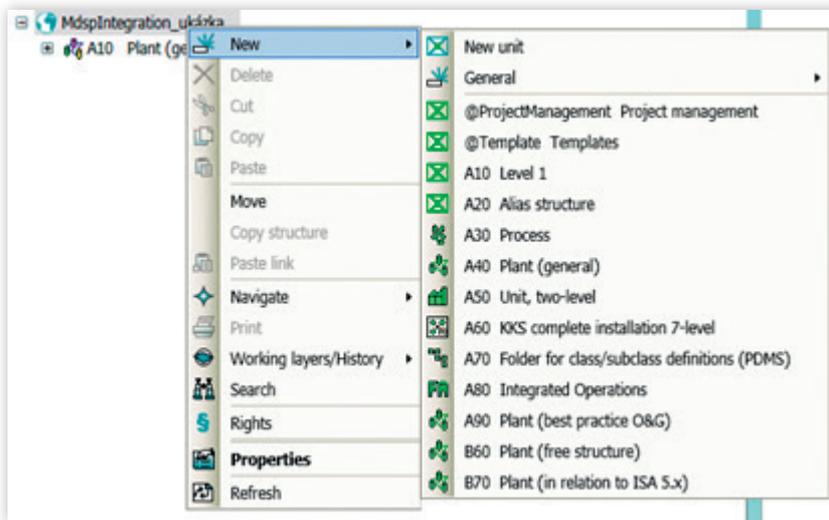
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Creating a Query for Comosintegration

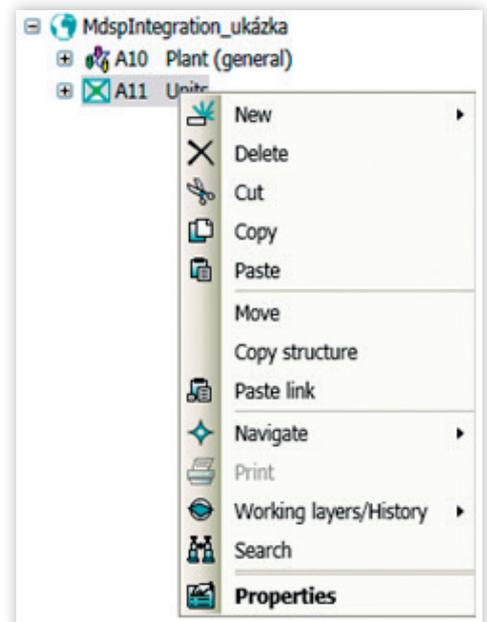
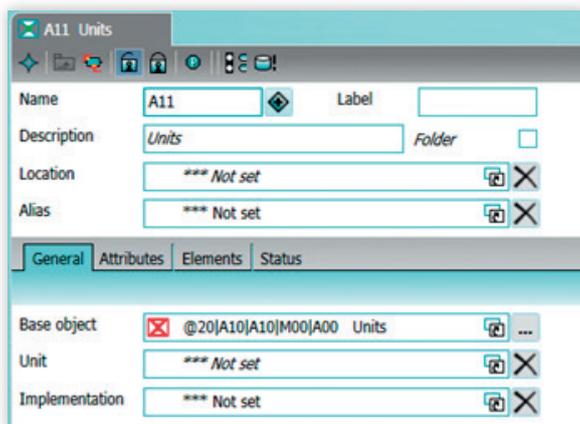
1st STEP

- Before creating a query, it is necessary to create a folder for this query.
- After the project opens, right-click on the project in the structure on the left.
- In the menu that appears, select then **New** and then **New unit**.
- A new folder **Units** appears in the structure.



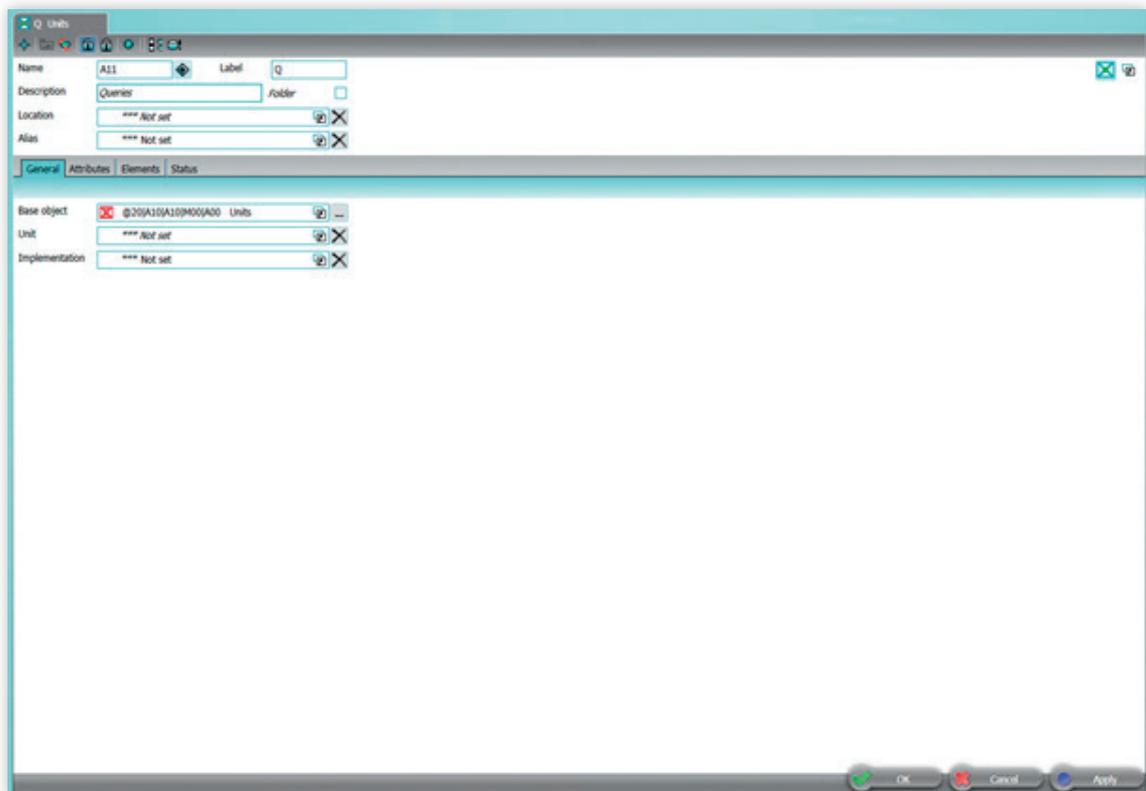
2nd STEP

- After you create a new folder, you need to rename the folder.
- Clicking on the folder will open the menu.
- Select the very last item in the menu, namely **Properties**.
After selecting this item, a tab with the folder properties will appear in the right part of the Comos application.



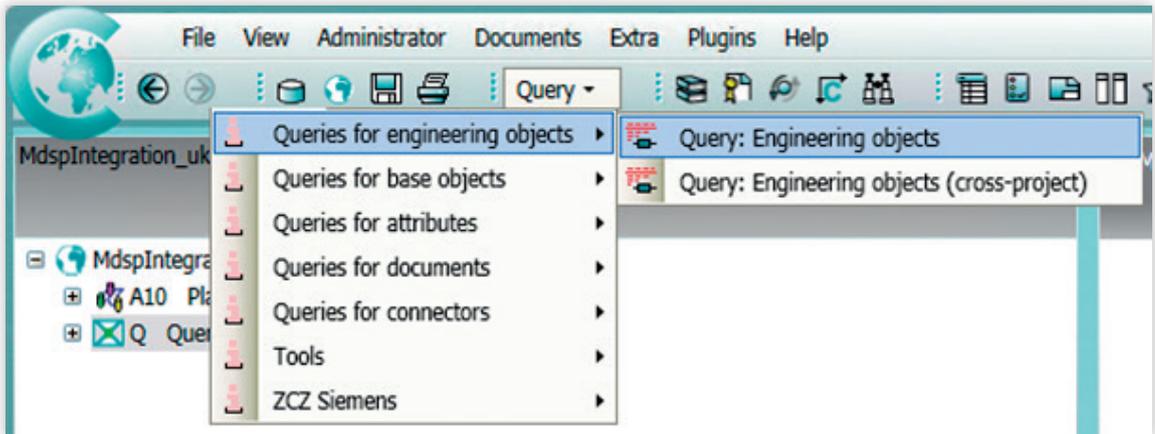
3rd STEP

- In the entry for Label, type „Q“ as Query.
- In the entry for Description, instead of „Units“, type „Queries“.
- **It is important that these names are preserved for the application to continue to function.**
- After renaming, just confirm with the „OK“ button in the bottom right.



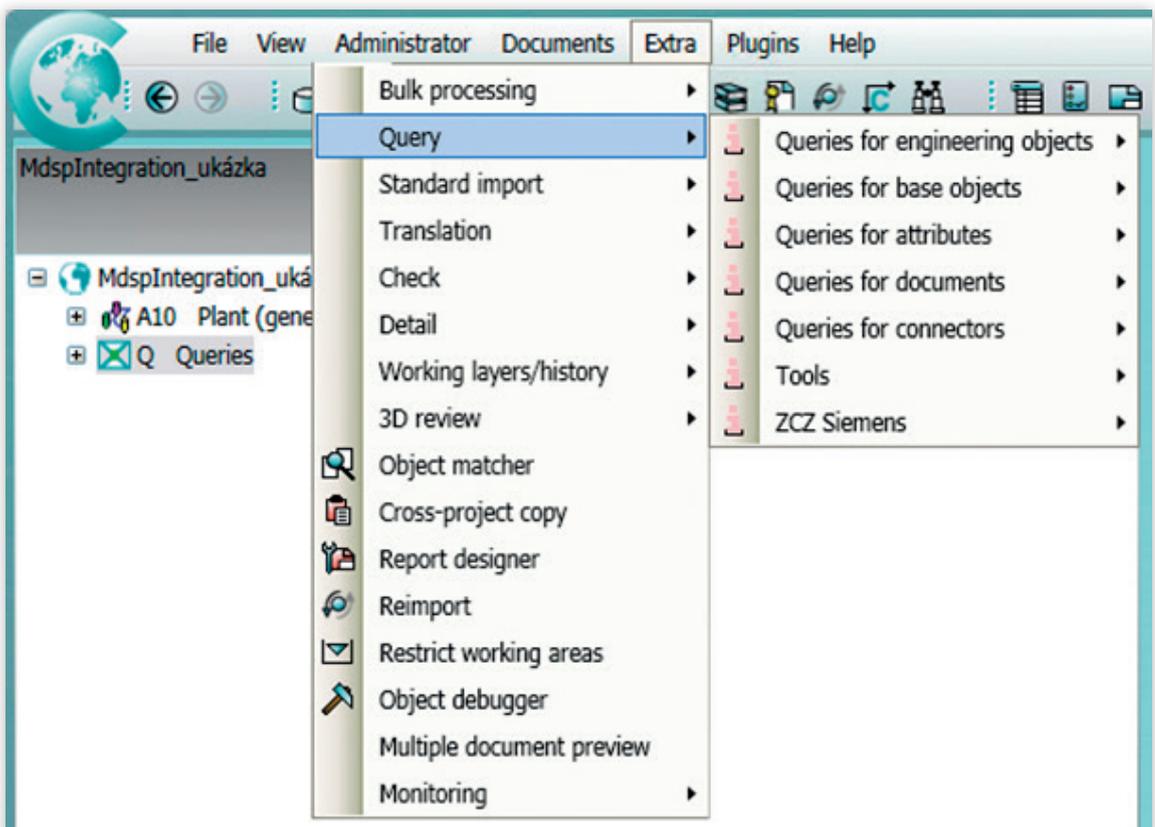
4th STEP

- Now that you have a folder ready, you start with the query itself.



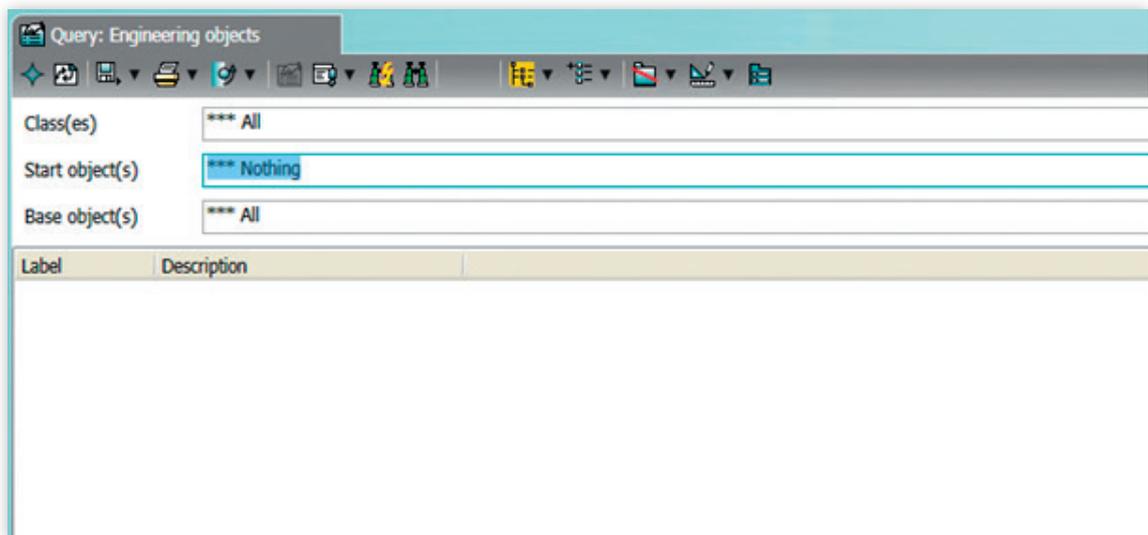
- To create a query, it is possible to:

1. Click on the Query on the toolbar and select **Query: Engineering objects**, which is located in the menu under **Queries for engineering objects**.



2. Click on the Extra option on the toolbar, under which the Query option is hidden, and then it is the same as in the first step, hence select **Queries for engineering objects** and then **Query: Engineering objects**.

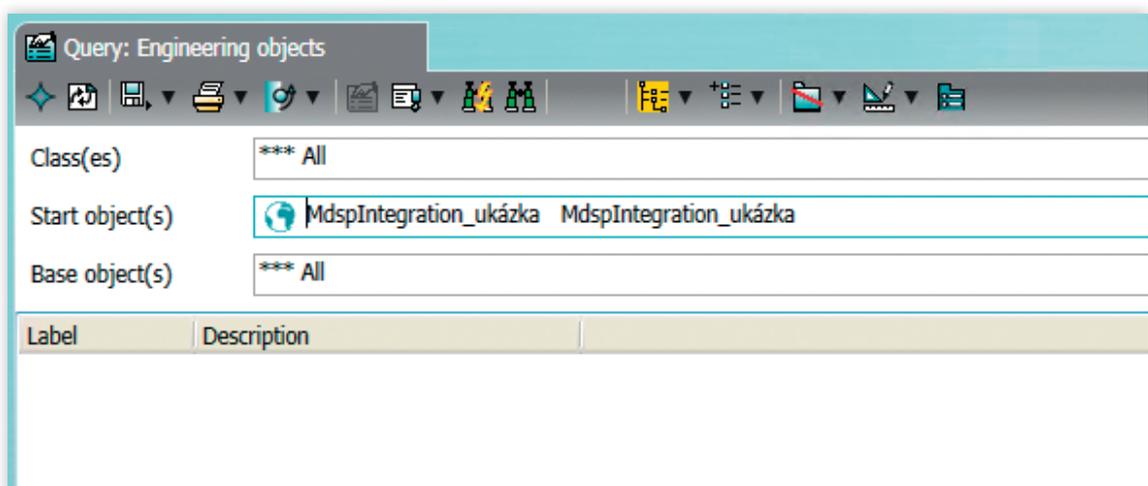
- These steps will open a new window in the right part of the Comos application.



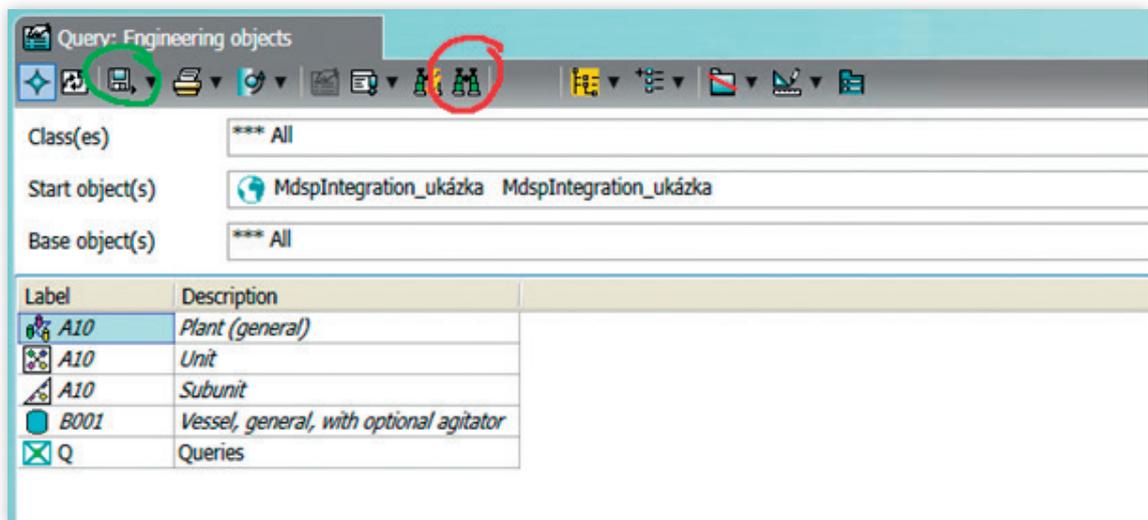
5th STEP

- Query supports the drag and drop function, which means that you just need to grab the option you wish and drag it into your query.

- Therefore grab your project, which you will find in the structure on the left and drag it into the „Start object(s)“ field in the in the query. This has told the query where to start listing individual devices.

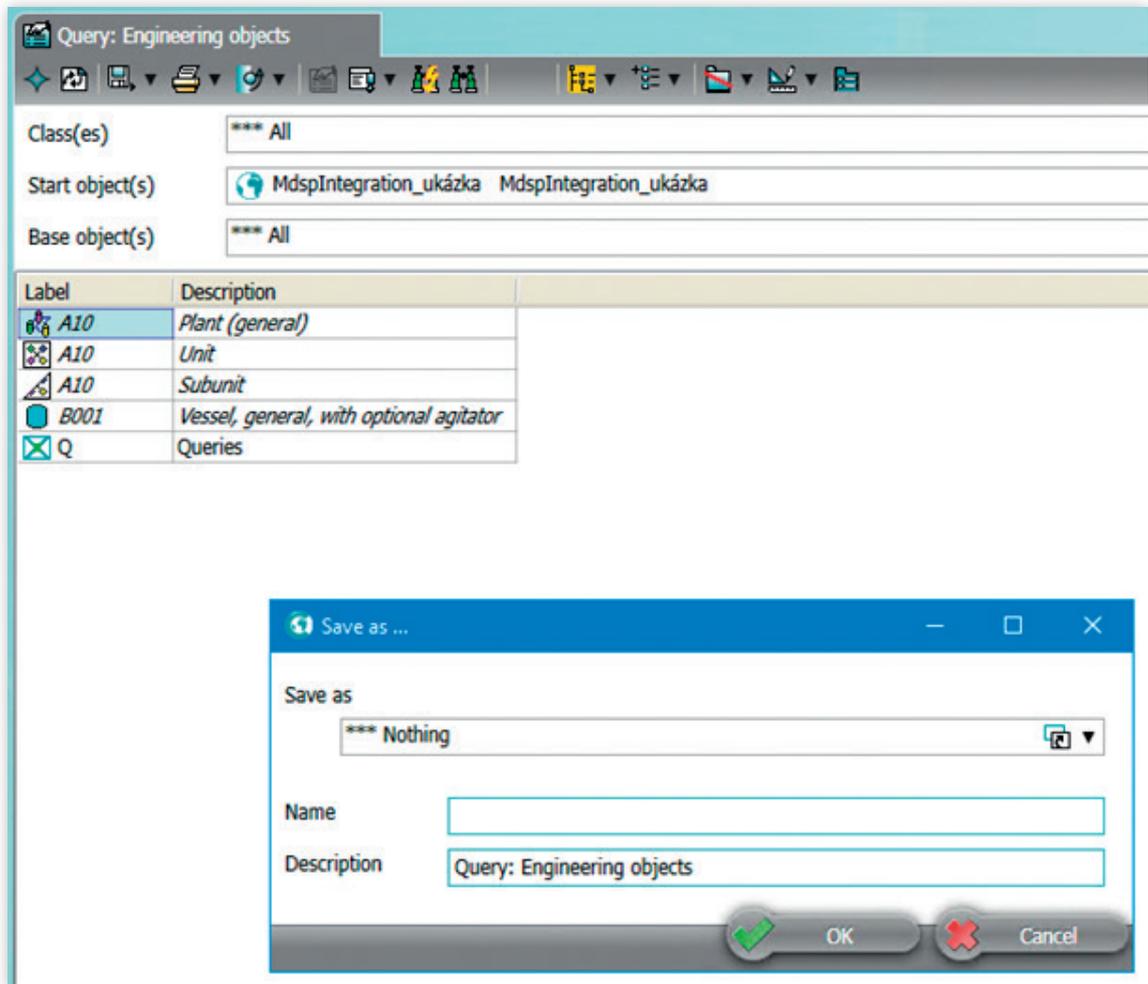


- You leave all other options in the default settings, hence unchanged.
- To check that the query lists all the items you need, you can press F9, or click on the green binoculars icon on the top toolbar of the query (in the figure, shown in the red circle).



- if the query listed all the objects in the project, you know that everything is fine and you can save the query by clicking on the floppy disk (in the figure, shown in the green circle)

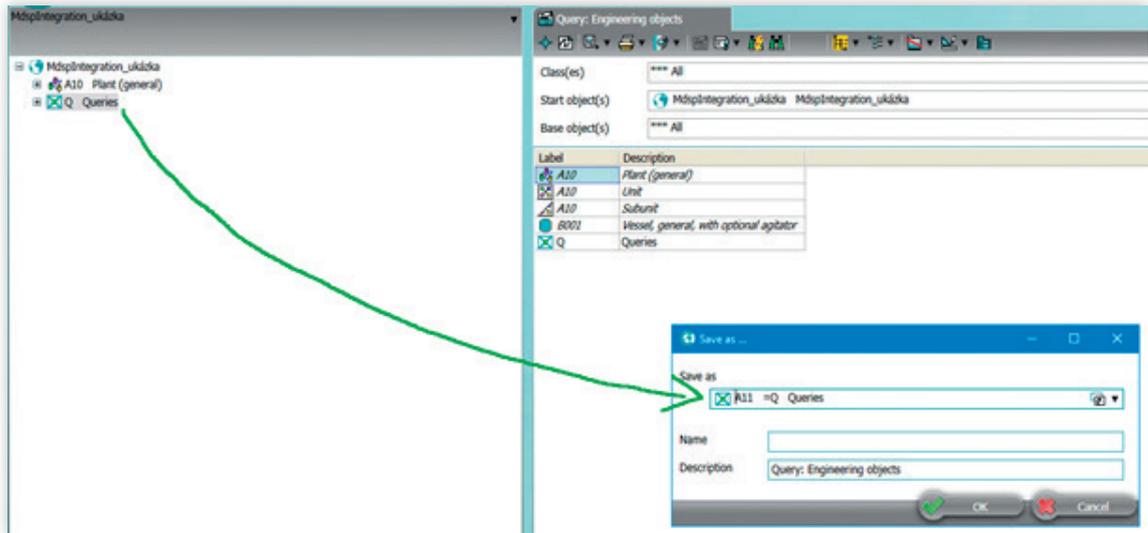




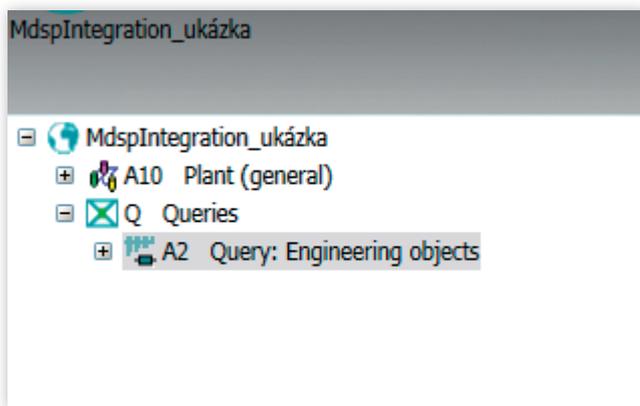
- After clicking on the floppy disk icon, a window will appear requesting where you wish to save the query. At this point, you will use the folder that you have already created.



- Again, you use the drag and drop function, grab your folder and drag it into the window under the text „**Save as**“.



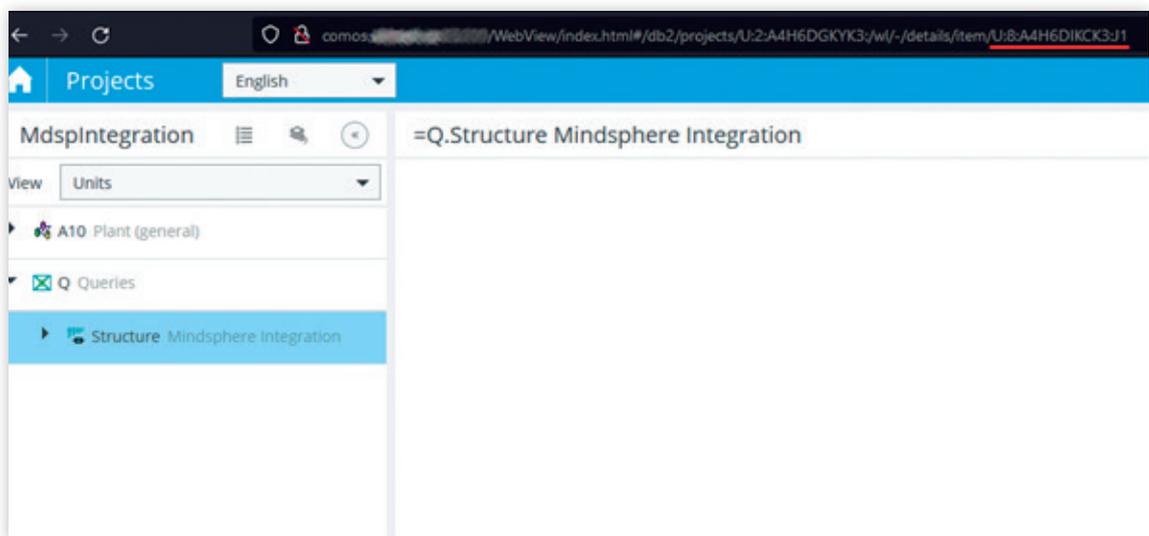
- Name your query in the empty field „Name“.
- As a final step, confirm with the „OK“ button at the bottom of the window and see if your query is created.



6th STEP

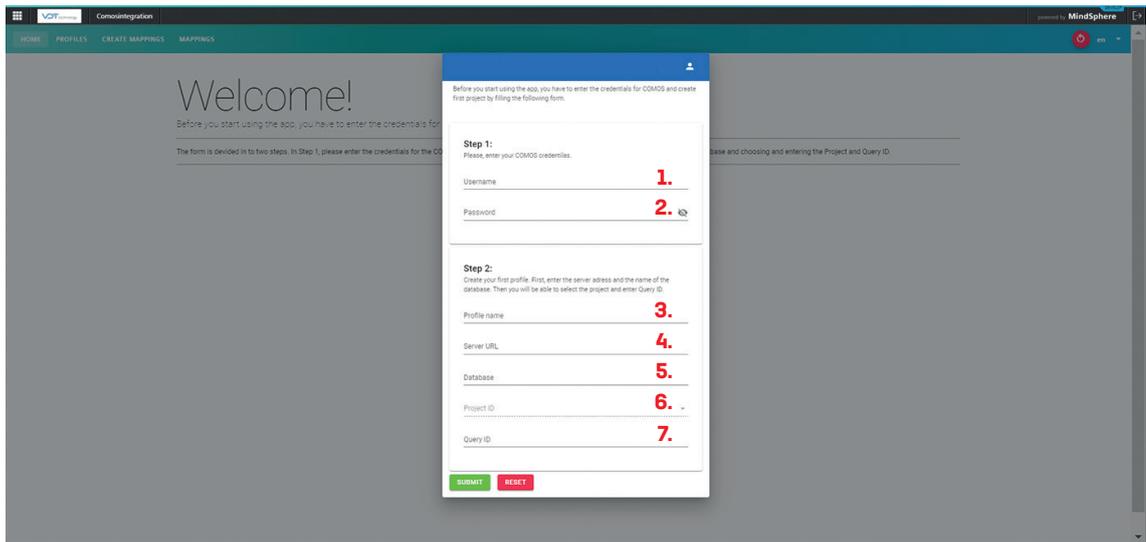
Obtaining the Query ID

- Log in to the web interface.
- Choose the project for which you have created a query.
- You will see the objects in the project, including your query.
- Copy the Query ID (including colons), which is located after the last slash in the link.



First Login to the Application

The first time you log in to Comosintegration, you will be prompted to link to your Comos application and create the first profile that you will use to create a data mapping between Mindsphere and Comos.



The screenshot shows the Comosintegration application interface. A modal window is open over a 'Welcome!' message. The modal contains the following form:

Before you start using the app, you have to enter the credentials for COMOS and create first project by filling the following form.

Step 1: Please, enter your COMOS credentials.

- Username **1.**
- Password **2.**

Step 2: Create your first profile. First, enter the server address and the name of the database. Then you will be able to select the project and enter Query ID.

- Profile name **3.**
- Server URL **4.**
- Database **5.**
- Project ID **6.**
- Query ID **7.**

At the bottom of the form are two buttons: **SUBMIT** (green) and **RESET** (red).

1. Username

In this field, enter the username you use to log in to your Comos application.

2. Password

In this field, enter the password you use to log in to your Comos application.

3. Profile name

Enter the name of your first profile (e.g., the name of the project in the Comos application).

4. Server URL

Enter the URL of your server that you use within the Comos application. The server address should be in the form **http://comos.name.domain:number**.

5. Database

Enter the name of the Comos database.

6. Project ID

After entering the data in fields 1-5, a selection of projects from Comos is made available.

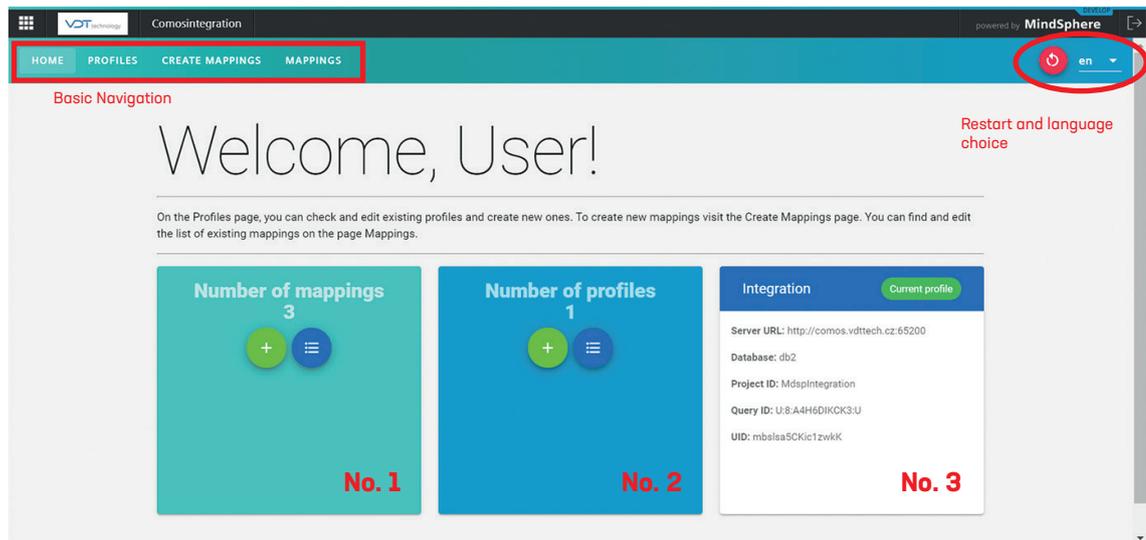
In case of an error message, check the data in fields 1-5, or try running the application again. If projects fail to reload, please contact the Support.

7. Query ID

Enter the Query ID (see instructions in the chapter).

All fields must be filled in to submit the form. The values in fields 3-7 can later be modified in the „**Profiles**“ section.

Introduction „Section“



Tab no. 1

The tab contains the current number of mappings and buttons for redirection to the detailed mapping list („**Mappings**“ section) and to the „**Create Mappings**“ section.

Tab no. 2

The tab contains the current number of profiles and buttons for redirection to a detailed list of profiles and their creation („**Profiles**“ section).

Tab no. 3

The tab contains the current profile, which is used when creating a mapping using the wizard in the „**Create Mappings**“ section.

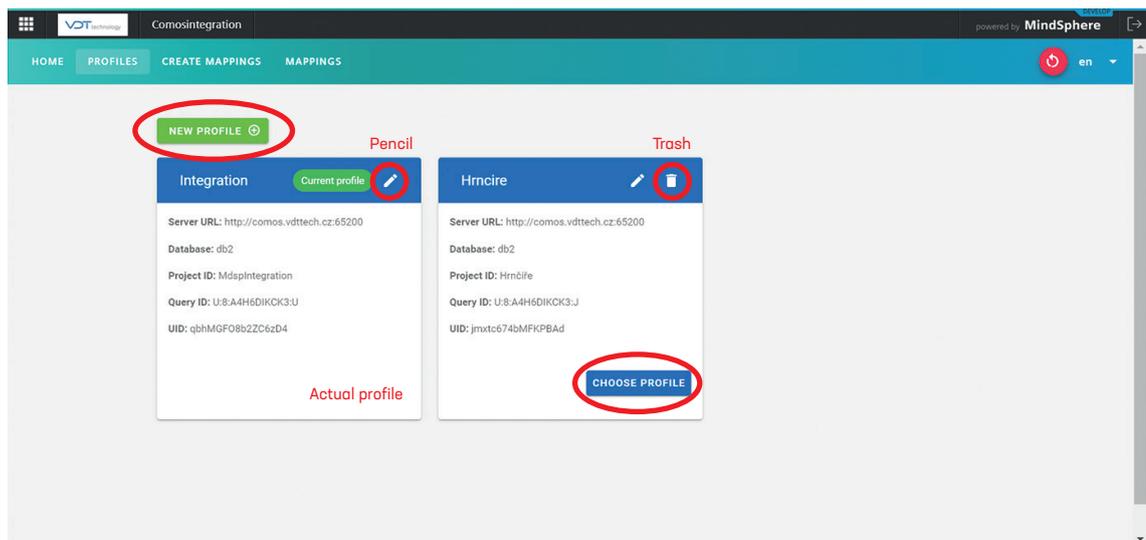
Navigation bar

The top bar provides basic navigation, a button for RESTART of the application and language selection. In the smaller view, the buttons of the individual sections are hidden under the „**hamburger**“ button.

„Profiles“ Section

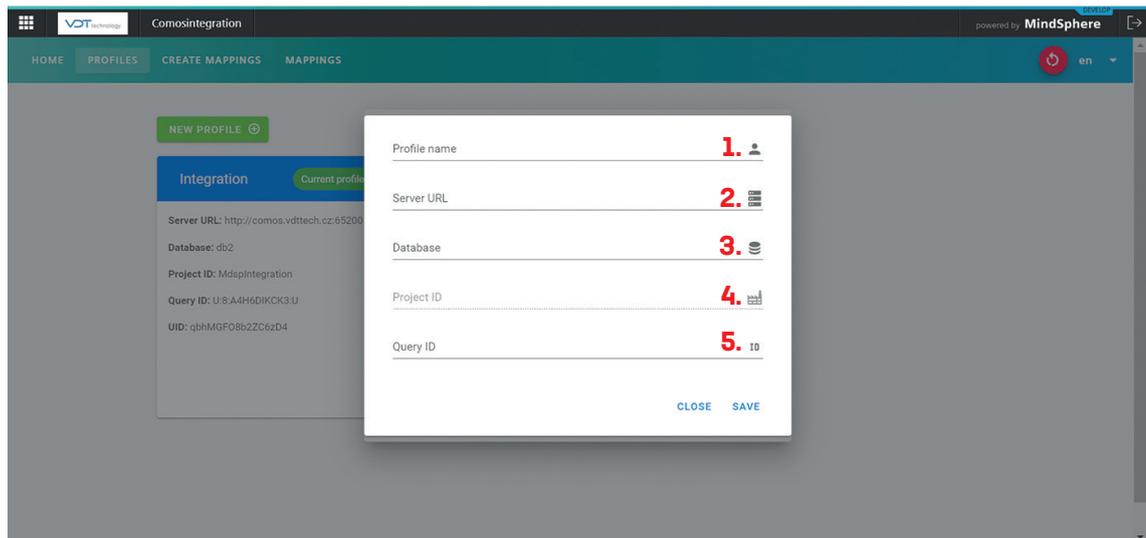
The Profiles section contains tabs of created profiles. The profiles are sorted so that the current profile is always in the first row on the left. The current profile is highlighted with the badge „**Current Profile**“.

All profiles can be edited by clicking on the button with the „pencil“ icon. Profiles (except the current profile) can be deleted by clicking on the „trash“ icon. The „**Select Profile**“ button is used to change the current profile.



Creating a new profile

Click the „**Create Profile**“ button to create a new profile.



1. Profile Name

Enter the name of your first profile (e.g., the name of the project in the Comos application).

2. Server URL

Enter the URL of your server that you use within the Comos application. The server address should be in the form **http://comos.name.domain:number**.

3. Database

Enter the name of the Comos database.

4. Project ID

After entering the data in fields 1-3, a selection of projects from Comos is made available.

In case of an error message, check the data in fields 1-3, or try to restart the application. If projects fail to reload repeatedly, please contact the Support.

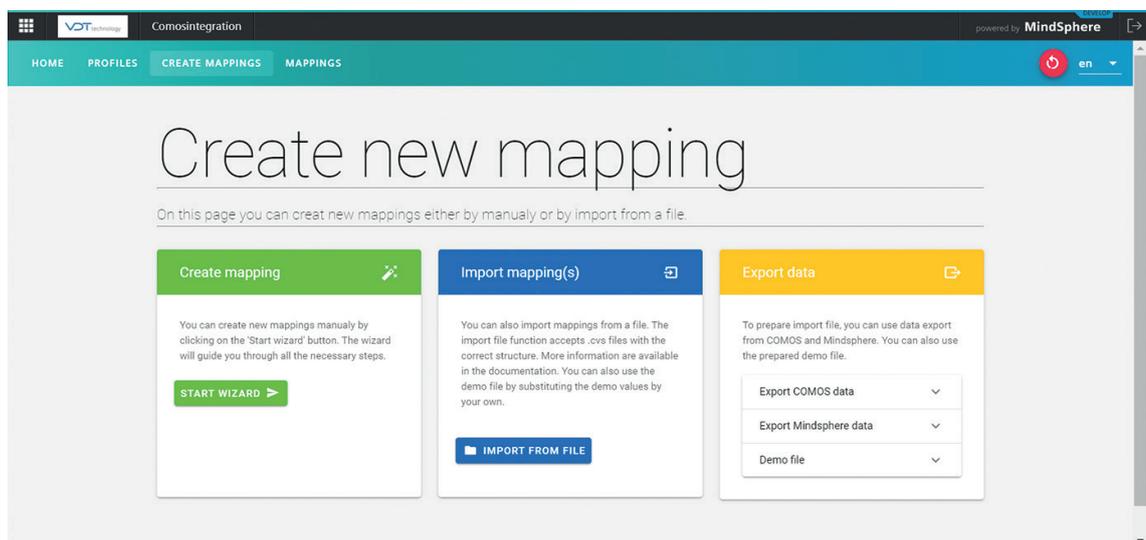
5. Query ID

Enter the Query ID (see instructions in the chapter).

All fields must be filled in to submit the form. The values can be edited later in this section.

Create Mappings

The „**Create Mappings**“ section enables you to create a mapping using a wizard designed to create individual mappings, and by importing data designed primarily for bulk mapping. The section also contains tools for exporting data from Comos and Mindsphere databases and a sample import file.



Create Mappings

The „**Create Mappings**“ tab enables you to create individual mappings using a simple wizard. Click the „**Run Wizard**“ button to launch the wizard.

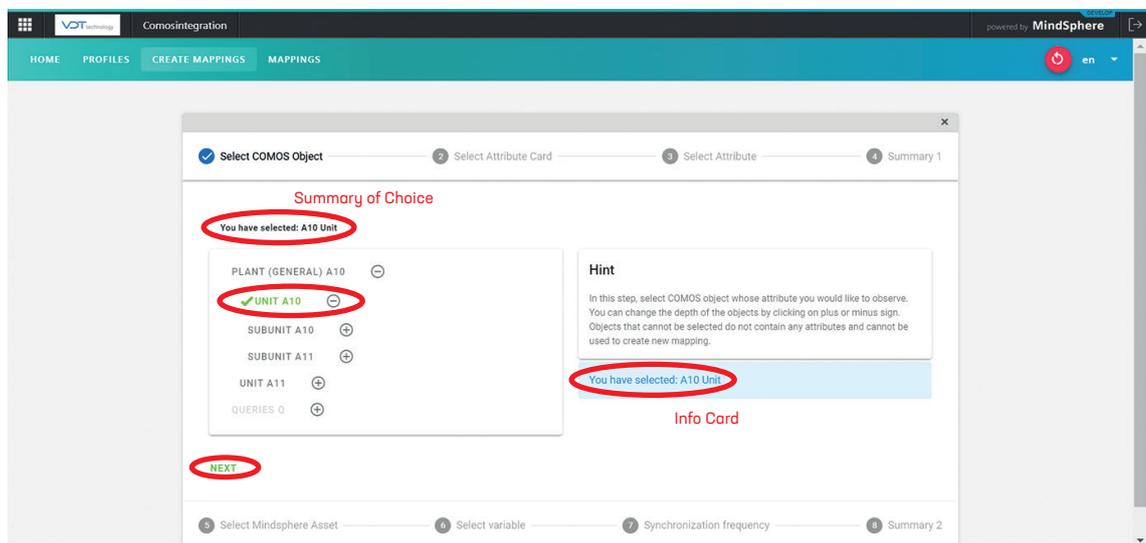
Step 1

In the first step, select the object from the Comos application. Objects and subobjects are arranged into a tree structure. Click on the button with the sign „plus“ to display the sub-objects of the given object. (Click the „minus“ button to hide the subobjects again). To select an object, click on the object name. The choice is confirmed by changing the color and adding the „checked“ symbol next to the object name. The info tab with the selection confirmation will also be displayed temporarily. The choice of the object is also reflected in the selection summary.

Non-clickable objects (color-coded) do not contain attributes that can be mapped with Mindsphere assets.

If the objects do not load or an error message appears, try restarting the application. If the problem persists, check the information entered in the current profile (especially in the Project ID and Query ID). If the problem persists, contact the Support.

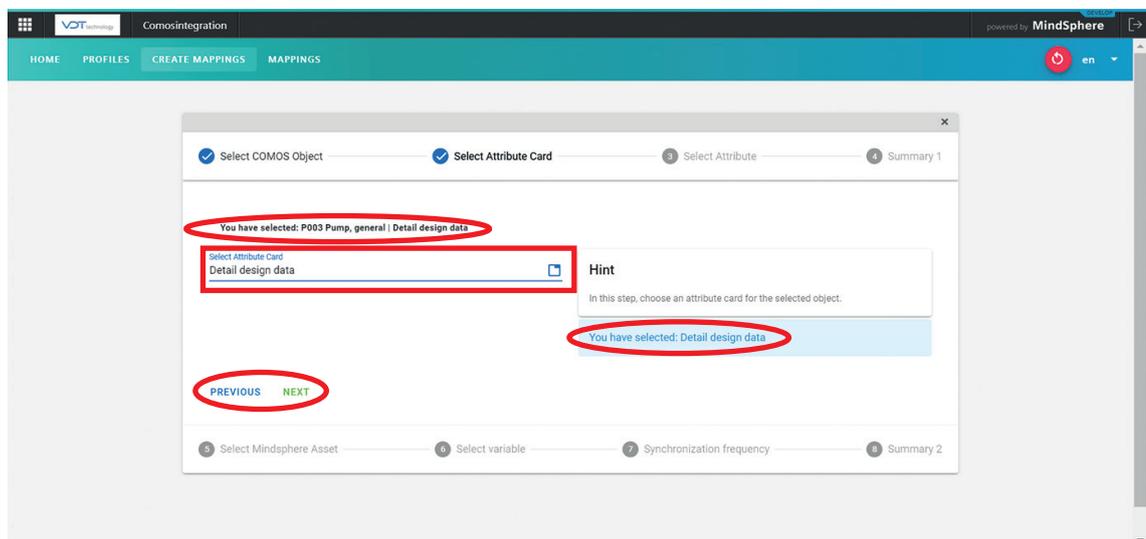
To proceed to the second step, it is necessary to select one of the available objects and click on the „Next“ button.



Step 2

In the second step, select the attributes tab of the corresponding selected object. The choice is confirmed by the display of the tab name in the selection field. The info tab with the selection confirmation will also be displayed temporarily. The attributes tab choice is added to the selection summary.

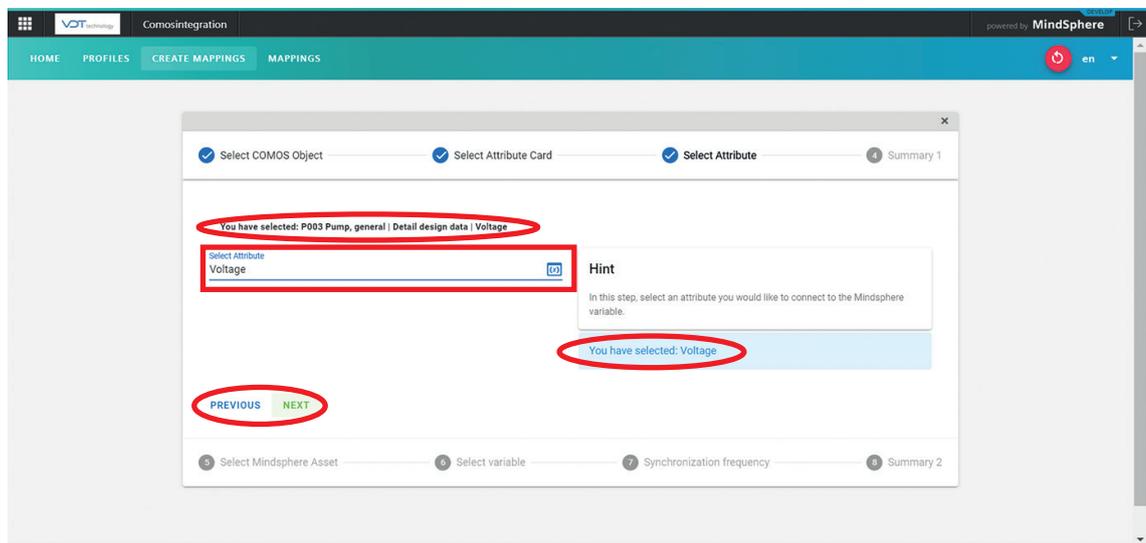
To proceed to the third step, it is necessary to select one of the attributes tabs and click the **Next** button. Click on the **Previous** button to return to the object selection. If you select another object, you must also select the attributes tab again.



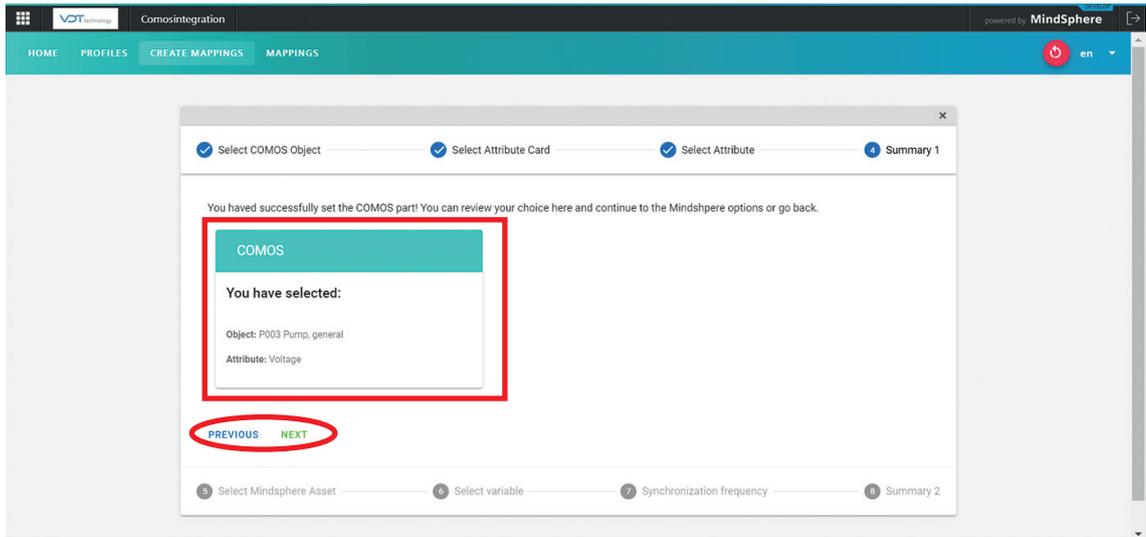
Step 3

In the third step, you select the appropriate attribute that you wish to map with a specific variable in the Mindsphere database. The choice is confirmed by the display of the attribute name in the selection field. The info tab with the selection confirmation will also be displayed temporarily. The attribute choice will be added to the selection summary.

To proceed to the third step, it is necessary to select one of the attributes and click on the “Next” button.



Click the „**Previous**“ button to return to the attributes tab selection. If you select another tab, you must also select the appropriate attribute again.



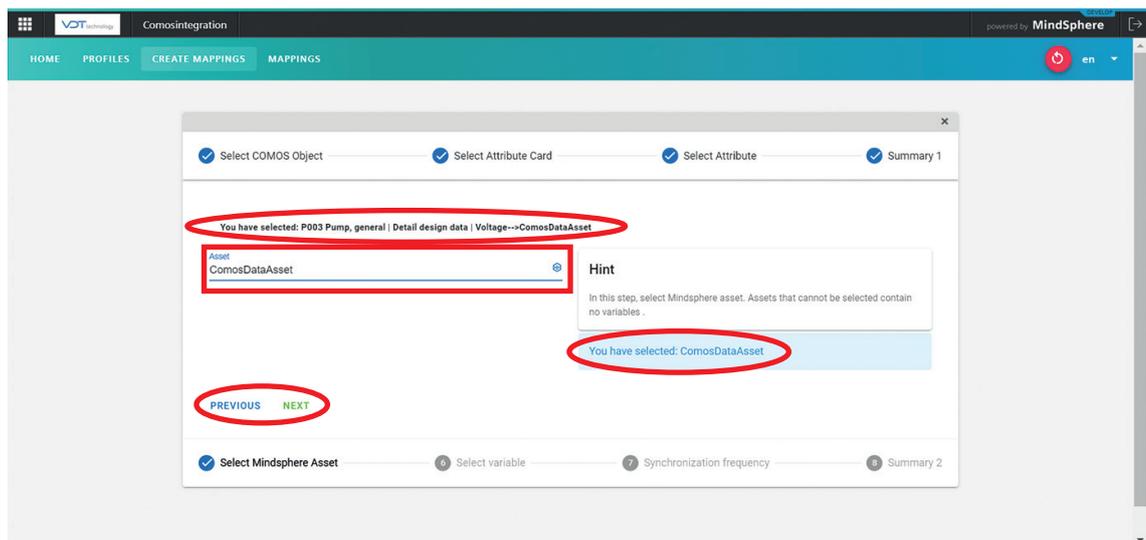
Step 4

In the fourth step, you will find a summary of the object selection, attributes tabs and the corresponding attribute. Click on the „**Next**“ button to proceed to the selection of assets and variables from the Mindsphere database. Click on „**Previous**“ to return to the options in the Comos application.

Step 5

In the fifth step, you select the asset the variable of which you wish to map. The choice is confirmed by the display of the asset name in the selection field. The info tab with the selection confirmation will also be displayed temporarily. The asset choice is added to the selection summary.

To proceed to the next step, it is necessary to select one of the assets and click on the “**Next**” button. Click on „**Previous**“ button to return to the previous step.

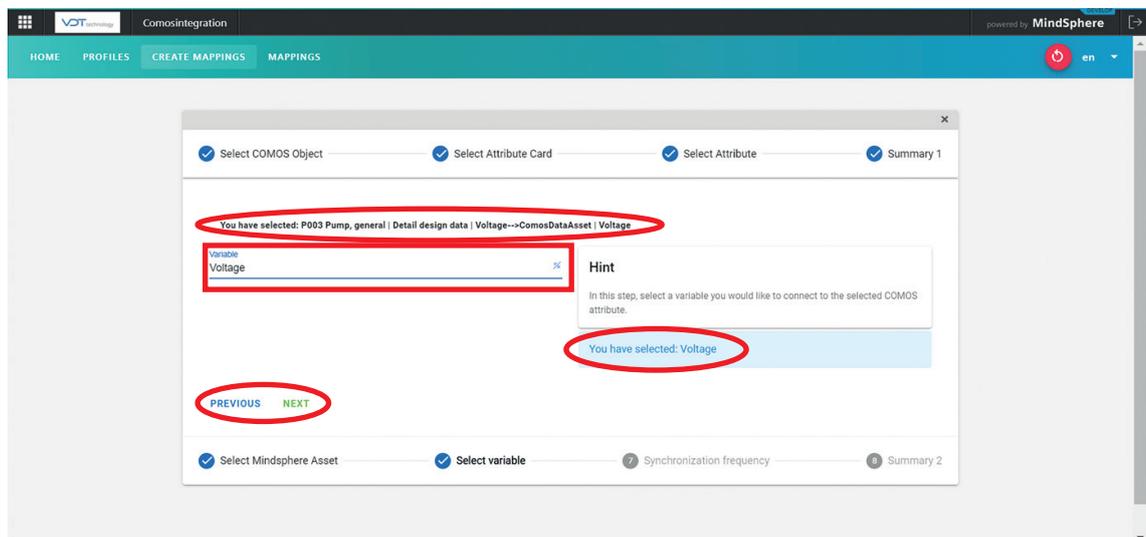




Step 6

In the sixth step, select the variable you wish to map with the selected attribute. The choice is confirmed by displaying the variable name in the selection field. The info tab with the selection confirmation will also be displayed temporarily. The variable choice is added to the selection summary.

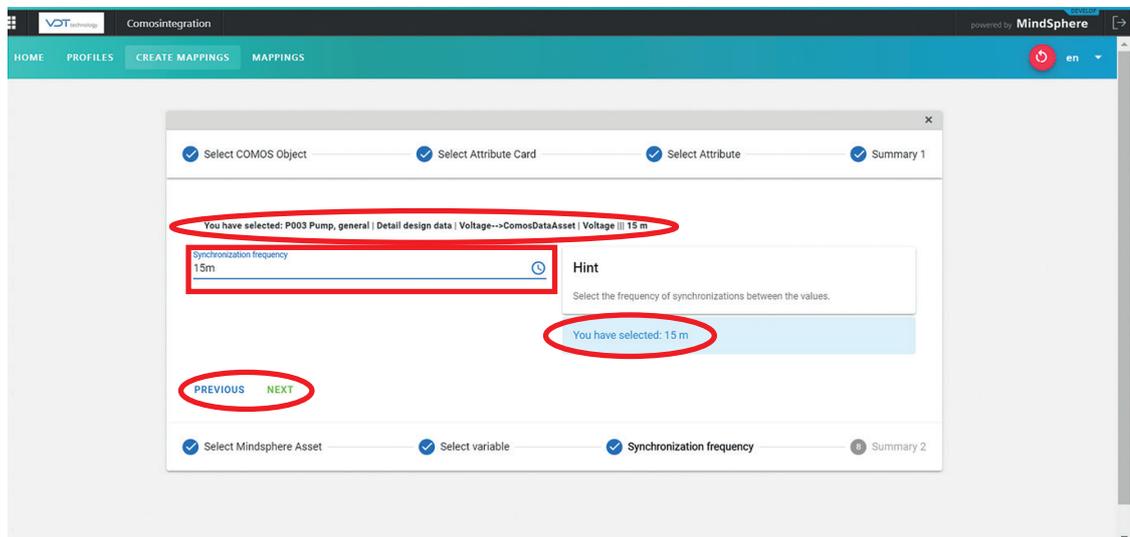
To proceed to the next step, it is necessary to select one of the variables and click on the **“Next”** button. Click on the **„Previous”** button to return to the asset selection. If you select a new asset, you also need to select the variable again.



Step 7

In the seventh step, you choose the synchronization frequency of values between the attributes of the Comos application and variables in the Mindsphere database. The choice is confirmed by displaying the variable name in the selection field. The info tab with the selection confirmation will also be displayed temporarily. The synchronization frequency choice is added to the selection summary.

To proceed to the next step, it is necessary to select the synchronization frequency and click on the **“Next”** button. Click on the **“Previous”** button to return to the variable selection.

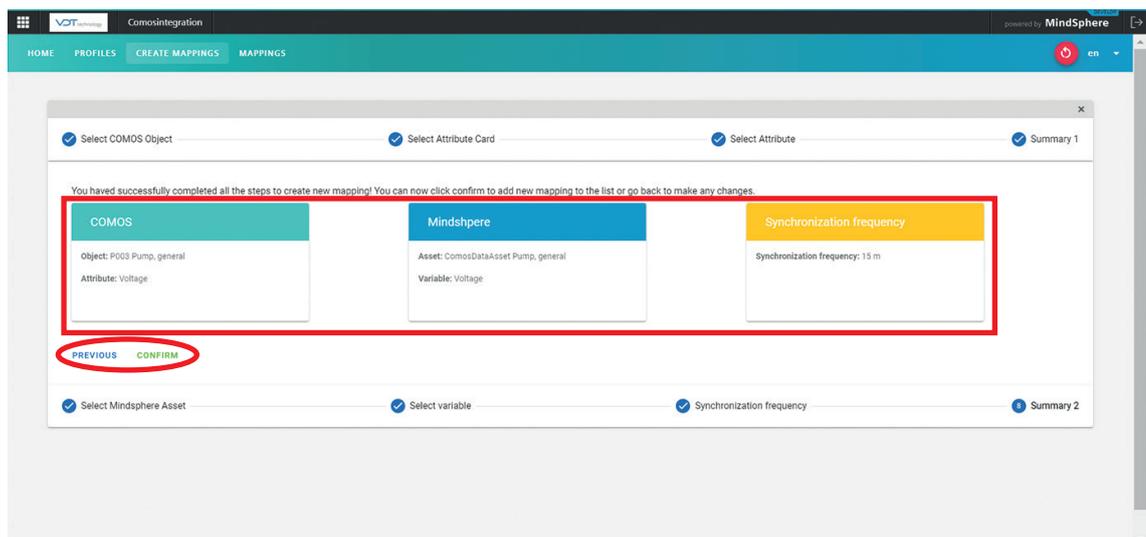




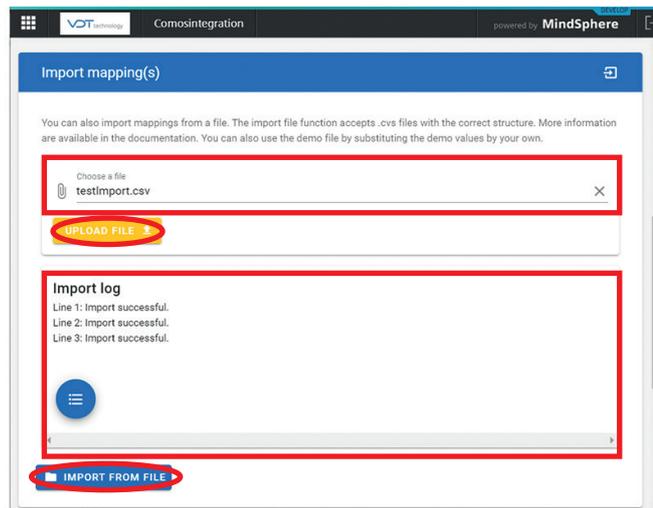
Step 8

In the eighth step, you will find an overview of the entered mapping and you will be asked to confirm your choice. Click on „**Confirm**“ to confirm the creation of the new mapping. Before adding a mapping to the list, a check is made to avoid duplicate mappings. If everything is correct, the new mapping is added to the list and you will be redirected to the „**Mappings**“ section.

If you receive an error message that is not related to checking for duplicate data, try restarting the application and recreating the mapping. If the problem persists, contact the Support.



Import Mappings



The „**Import Mappings**“ tab enables you to import mappings in bulk using an import file (see the instructions).

1. Click on the „**Import from File**“ button to display the fields for uploading the file.
2. Click in the field or on the „**paper clip**“ icon to open the file browser, which will offer you to select the file to be imported.
3. Click the „**Upload File**“ button to upload the file.
4. After uploading the file, a log will be displayed („Import Log“) where you can check whether the mappings have been added to the list or why the mappings could not be added. The log also contains a button that redirects you to a list of current mappings in the „**Mappings**“ section.

Export Data

The „**Export Data**“ tab provides data export tools that you can use to create an import file. It also contains a sample import file.

Export Data from COMOS

To export, it is necessary to enter values in the following fields.

1. Server URL

Enter the URL of your server that you use within the Comos application. The server address should be in the form `http://comos.name.domain:number`.

2. Database

Enter the name of the Comos database.

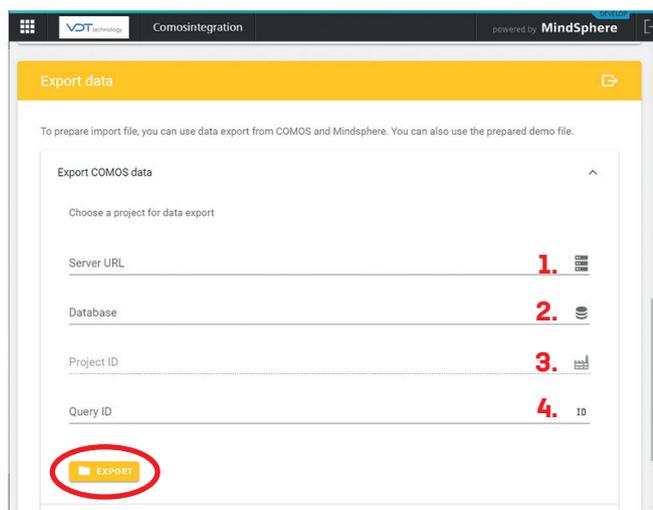
3. Project ID

After entering the data in fields 1 and 2, a selection of projects from Comos is made available.

In case of an error message, check the data in fields 1 and 2, or try to restart the application. If projects fail to reload repeatedly, please contact the Support.

4. Query ID

Enter the Query ID (see instructions in the chapter).



The screenshot shows a web application interface titled "Export data". At the top, there is a navigation bar with "VDT technology", "Comosintegration", and "powered by MindSphere". Below the title, there is a sub-header "Export data" and a brief instruction: "To prepare import file, you can use data export from COMOS and Mindsphere. You can also use the prepared demo file." The main content area is titled "Export COMOS data" and contains a section "Choose a project for data export". Below this, there are four input fields, each with a red number indicating its order: "1. Server URL", "2. Database", "3. Project ID", and "4. Query ID". At the bottom left of the form, there is a yellow button labeled "EXPORT" which is circled in red.

All fields must be filled in before exporting. Click on the „Export“ button to start preparing the file with the exported data. The preparation of the export is accompanied by a loading animation, which temporarily replaces the inscription on the button. If the export is successful, a link to download the created file will appear.

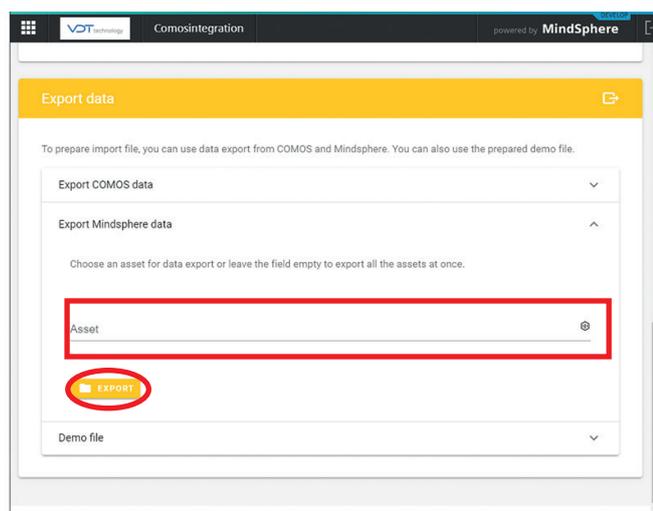
If you get an error message, try restarting the application. If the export fails repeatedly, please contact the Support.

Data Export from Mindsphere

There are two ways to export data from Mindsphere. If you leave the selection field blank, you will export all available assets and their variables. Alternatively, it is possible to select one of the assets and export data only for the selected asset. The asset choice is confirmed by listing the asset name in the selection field. If the list of available assets is empty, try restarting the application or contact the Support.

The preparation of the export is accompanied by a loading animation, which temporarily replaces the inscription on the button. If the export is successful, a link to download the created file will appear.

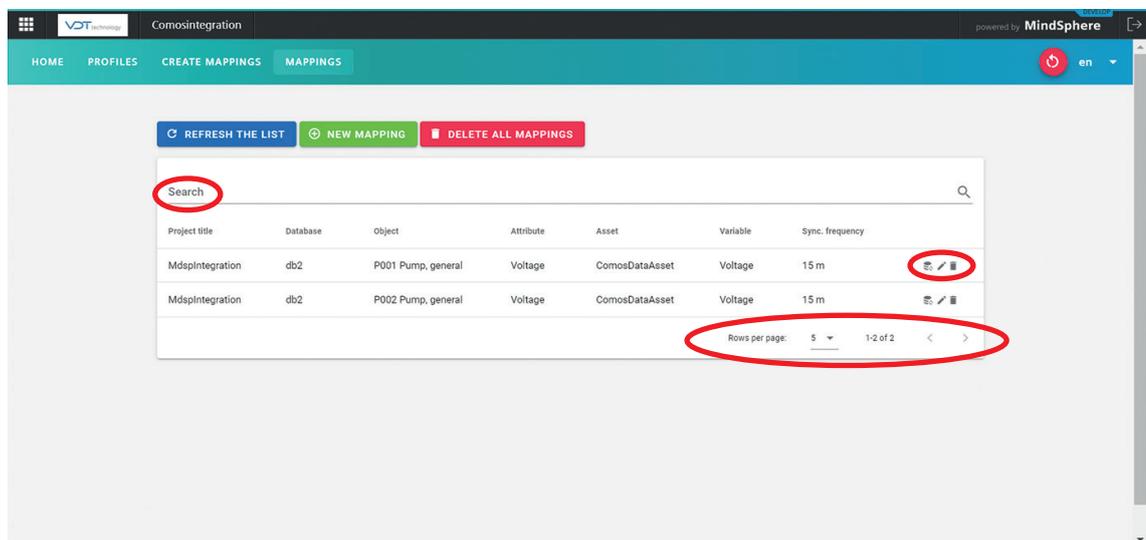
If you get an error message, try restarting the application. If the export fails repeatedly, please contact the Support.



Sample File

The tab offers the download of a sample import file. The preparation of the sample file is symbolized by the loading animation, after which a link to download the file appears. If you receive an error message, try restarting the application or contact the Support.

Mappings Overview



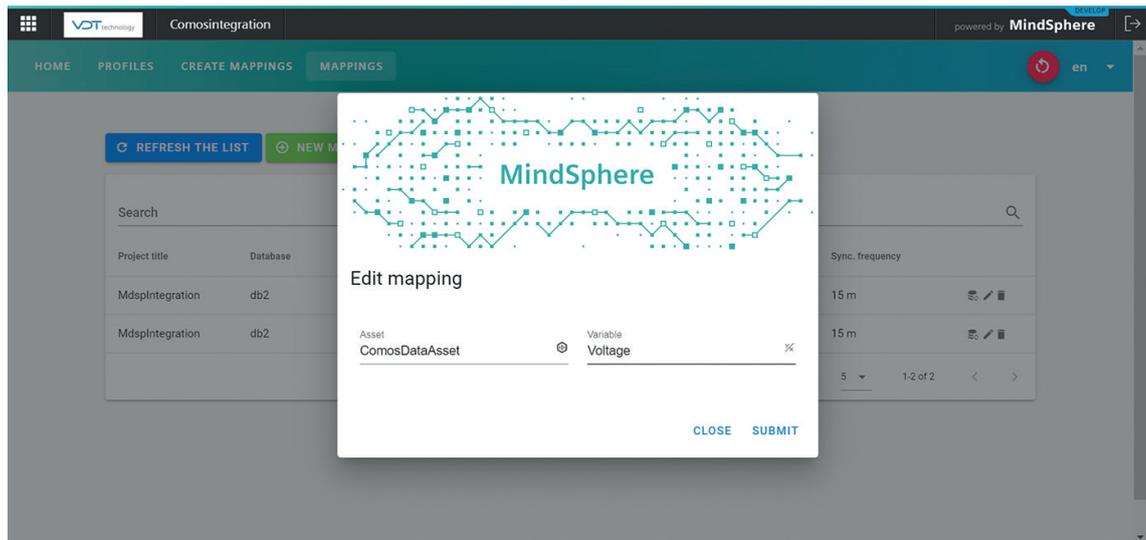
The „**Mappings**“ overview section provides a list of current mappings. The list can be sorted by individual values and filtered via the field „**Search**“. The number of records is paged and the number of records displayed on one page can be changed using the navigation at the bottom of the list.

Each record also contains functional elements that are used to edit and delete and instantly synchronize mapped values.

Mapping Synchronization

The button is used for immediate synchronization between the attribute and the variable. Successful synchronization is confirmed by a message in a pop-up window. If you get an error message, try restarting the application and try syncing again. If the problem persists, contact the Support.

Edit Mapping



The button enables you to edit the selection of an asset and a variable from the Mindsphere database. If you change the asset choice, you must also select a new variable. Click on the Send button to confirm the selection. If the asset list is empty or you receive an error message when sending, try restarting the application and continuing to edit the mapping. If the problem persists, contact the Support.

Delete Mapping

The button clears the mapping from the list. If you receive an error message, try restarting the application and deleting the mapping again. If the problem persists, contact the Support.

Reload List

The button updates the list of current mappings.

New Mapping

The button redirects you to the „**Create Mappings**“ section.

Delete All Mappings

Click on the button to delete all existing mappings.



Contact for the Support

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