Norwegian University of Science and Technology

TDT4300

ICCUBE QUICK GUIDE

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1 Setting up

V1: Downloading icCube

1. Download the trial version of icCube (`https://www.iccube.com/download-page/`) by registering for it and recieving an download link in your email.
2. Start the Server by executing the EXE-file.
3. Open the IDE by right-clicking the server symbol on the task bar and clicking Open the Builder or Console.

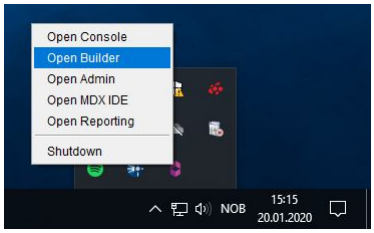

Figure 1. icCube IDE

V2: Running from Docker (preferred on Linux and Mac)

1. Install Docker (`https://docs.docker.com/get-docker/`) as provided in the linked documentation
2. Create the following named directories ***data, icCube-data***.
3. Next run the following command in a terminal where the the created directories are located in:

```
docker run -d --name iccube -p 8282:8282 \
-v $PWD/data:/root/data -v $PWD/icCube-data:/root/icCube-data \
hellonico/iccube:latest
```

4. Open a browser tap and navigate to the following address: `http://localhost:8282/icCube/console`.
5. Login with username: admin and password: admin.

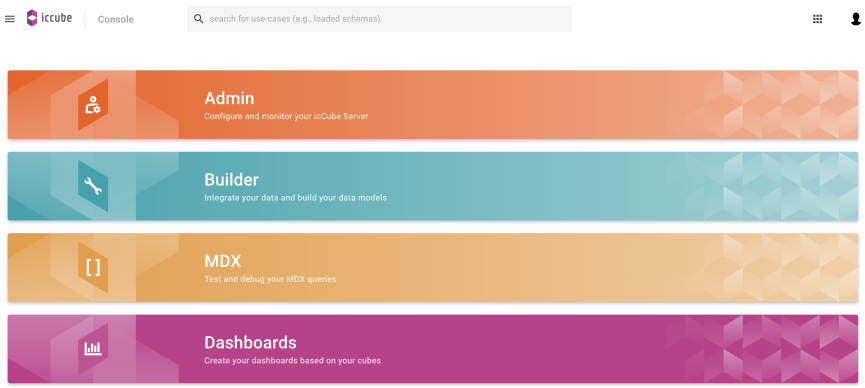

Figure 2. icCube IDE

Assuming that you have successfully downloaded the program, this is how you get started with the actual programming. A suggestion is to take a look at some demo Schemas and get familiar with their setup. They are already created under the ”Schemas” tab.

1.1 Creating a Schema

1. Click the Builder tab
2. Click the + sign ”Create New Schema”
3. Write a name, Group name and press Finish

4. Click SAVE

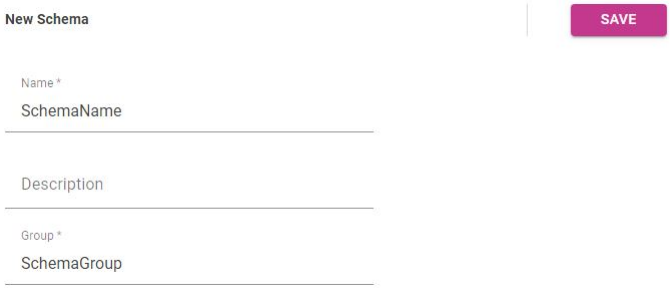

Figure 3. Create Schema

1.2 Importing Data

1. Either click "Create Datasource" or "Data Integration"/"Data Sources", press the + sign to create a new Source.

2. Choose Excel File (xls/csv) depending on your filetype and click Next

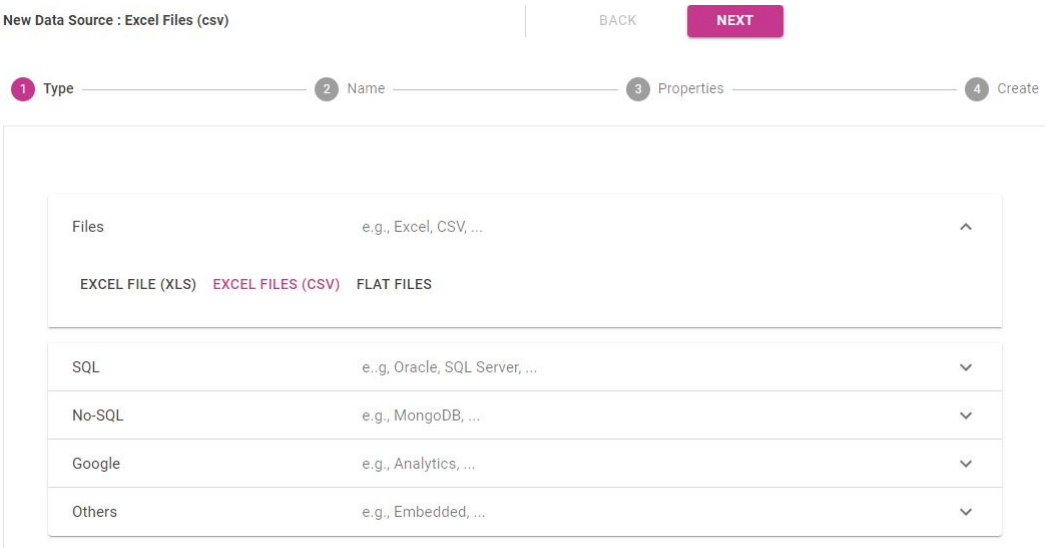

Figure 4. Select file type to import

3. Choose a name for your data source folder

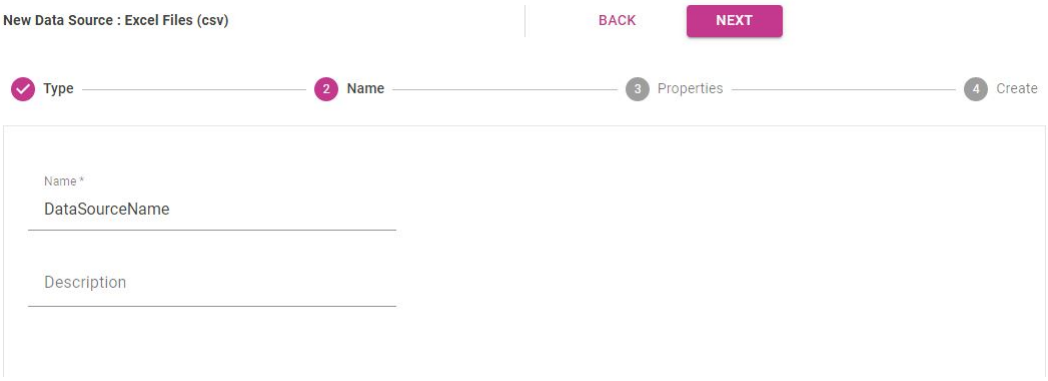

Figure 5. Select a data surce name

4. Select a directory where your data source files is located. Click Next
5. Click Create (And setup tables). If not clicked, navigate to "Data Integration & Data Tables"

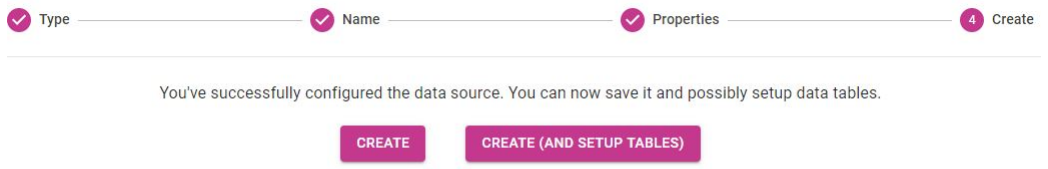

Figure 6. Create (And Select Tables)

6. click the + button and then "Select Existing CSV/XLS Files"
7. Select data source files and click next

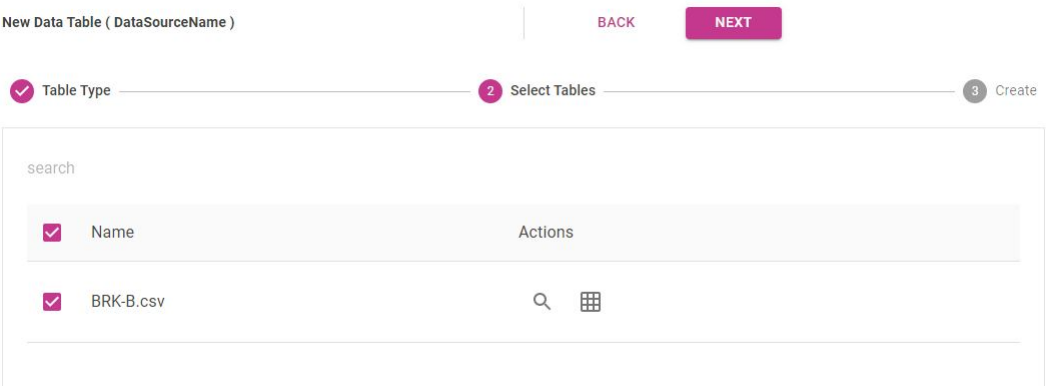

Figure 7. Select a folder

8. Click Create
9. Under ”Data Tables”/”FileName.csv”, navigate to the COLUMNS tab. Select correct data types for each column.

You have now laid the grounds by defining where your data is fetched from. If you wanted multiple sources, you could easily add them by selecting them as a source.

2 Creating the Data Table

In this section we will demonstrate how to create a data cube.

2.1 Adding Dimensions

For each dimension you wish to add, follow the steps listed below. Here, we demonstrate the ”Data” dimension.

1. Under Semantic Layer, Click Create Dimension
2. Choose Multi-Levels
3. Click Start From Scratch
4. Choose a name.

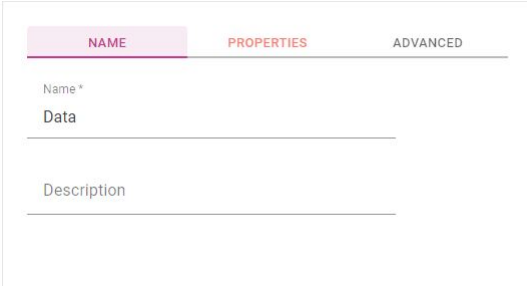

Figure 8. Dimension name

5. In properties, choose the appropriate Data Table, in this case FileName.csv.
6. Click Next and Save

You have now created the Data dimension. You can now fill it with hierarchies.

2.2 Adding Hierarchies

For each dimension, you need to add at least one hierarchy.

1. Under Semantic Layer, click on the Dimension you wish to add a Hierarchy.
2. Click the + button New Hierarchy
3. Choose a name.

Figure 9. Hierarchy name

4. In properties, you can choose to select the hierarchy as Default to the dimension.
5. Click save

You have now created a hierarchy. You can now fill it with Levels.

2.3 Adding Levels

For each hierarchy, you need to add at least one Level.

1. Under Semantic Layer, click on the Dimension and hierarchy you wish to add a Level to.
2. Click the + button New Level
3. Choose a name.
4. In properties, you can choose to select the column you want the level to display.
5. Click save

2.4 Creating a time dimension

This is not always necessary, but nice to know how to. To create a time Dimension easily:

1. Create new dimension and select ”Time”.

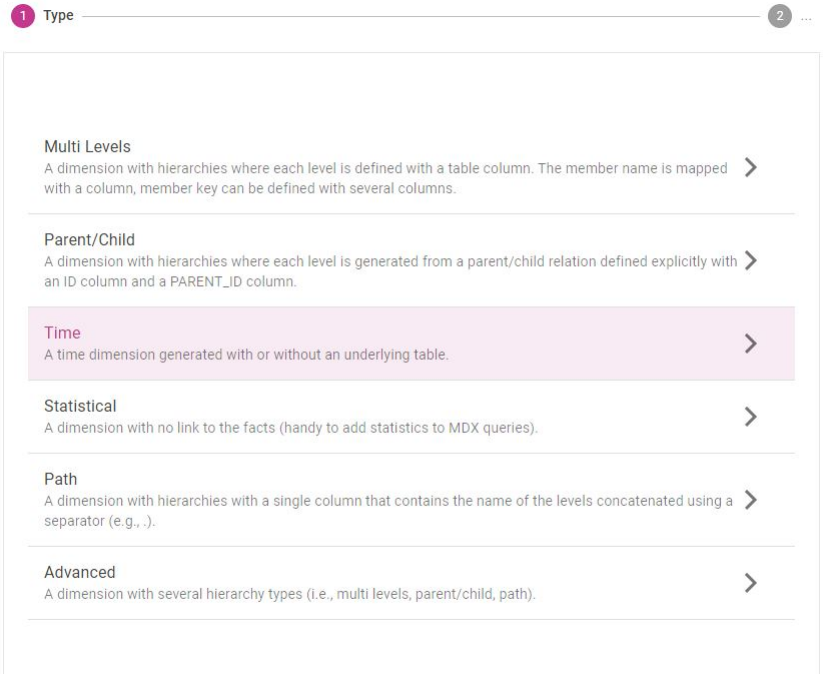

Figure 10. Time Dimension

2. Name it, choose appropriate data table and column and click next.

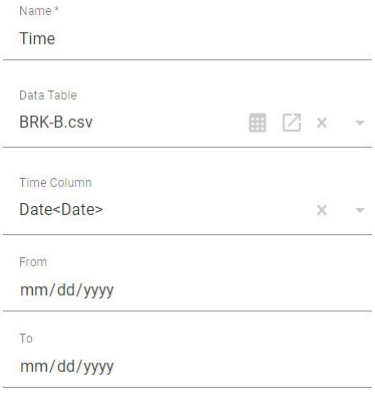

Figure 11. Time Dimension Properties

3. Select the appropriate **Levels** for the time hierarchy. One can select all of them just to be certain, but it’s not necessary.

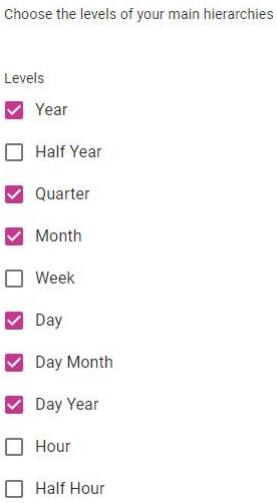

Figure 12. Time Levels

4. Select the appropriate **Hierarchies** for the time Dimension. One can select all of them just to be certain, but it's not necessary.

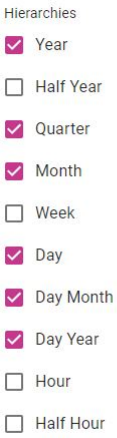

Figure 13. Time Hierarchies

5. Click next and Save

6. You have now auto-generated a Time dimension. This dimension could be made manually if needed, but it's not.

Creating Hierarchies and Levels for dimensions is just as easy as creating a new dimension. Navigate to "Semantic Layer" and select your dimension. Hit the + button to create a new hierarchy.

2.5 Selecting Data Types

The data in the data tables need appropriate metadata such as type.

1. Navigate to Data Tables. Select Your table, in this case the FileName.csv table.
2. Navigate to COLUMNS and assert appropriate data types.

2.6 Creating The Cube

As you now have at least one Dimension, you can create a Cube.

1. Navigate to Measures and Create Cube.
2. Give the Cube a name and hit Save.
3. A cube needs some kind of a measure, so click the + button to add a measure.
4. For fast and easy setup, choose ”Fast Setup”.
5. Give it a name and select your table.

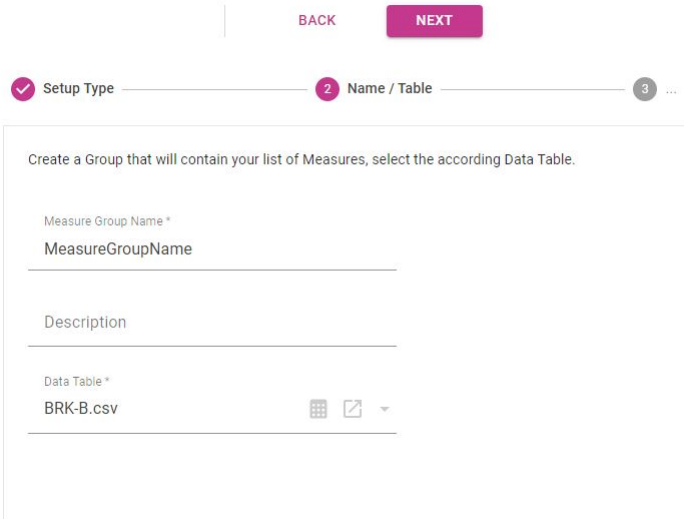

Figure 14. Measure Group Name

6. Select appropriate Aggregation types. You can start with just SUM to play with. Hit Next.
7. Next, select the type of association between the Dimensions and the Fact Table, or use the magic wand icon that suggests a mapping for ‘Not Specified’ links.
8. Create your data cube.

3 Validating and DeployingIn

In this section we will validate and deploy our data warehouse.

1. Navigate to Deployment
2. Click Validate and ensure there are no errors.
3. Click Deploy & Load
4. Navigate to the console menu by clicking the iccube icon on the top left.
5. Choose MDX

You should now be in the editor and able to run MDX queries on your cube.