



Public

# **SAP Data Warehouse Cloud**

## Content Tutorial

Version 1.5 – November 22, 2019

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THE BEST RUN



## INTRODUCTION

The Best Run Bikes sample data model will help you explore and learn your way around in SAP Data Warehouse Cloud. While this content has been introduced for the Beta program, it will continue to be available until further notice.

Please make use of the in-app help and available enablement materials on [www.sapdatawarehouse.cloud](https://www.sapdatawarehouse.cloud) in case you need further assistance beyond this document.

## STORY LINE

The customer “Best Run Bikes” is looking for an analytics solution for their Sales department. As the name suggests they are experts in Bikes, but not so much in Data Warehousing and Analytics solutions.



These are the analytics they need:

### **1. Year-over-Year Sales Comparison**

They want to compare the current years' company sales with the previous year. But they have all the data in Excel and visualizing this data with formulas is a painful task.

### **2. Sales Per Region**

Due to an increase in the number of sales, the company wants to understand how the different regions are performing. Based on this visualization, the marketing team wants to identify the regions which are doing good as well as the regions which need attention or better marketing campaigns.

### **3. Best Sales Representative**

It is time for the company to reward the best Sales Representative for all the hard-work that has resulted in a remarkable sales quota. For this purpose, the company needs to have a visualization that shows the sales revenue per sales representative.

SAP Data Warehouse Cloud and SAP Analytics Cloud will help solving the above challenges.

Follows these steps to create the above reports with SAP Data Warehouse Cloud using the Best Run Bikes data model:

1. Prepare data source in Data Warehouse Cloud
2. Create models using this data in Data Warehouse Cloud
3. Create SAP Analytics Cloud story using the models

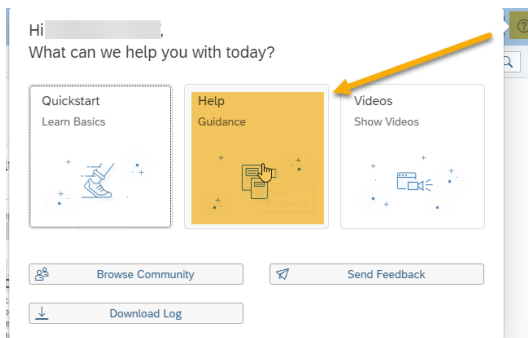
## SPACES

To work with SAP Data Warehouse Cloud, a Space is needed as a pre-requisite. Find more information on Spaces [here](#).

Either use a space you have already created or create a new space first.

To create a new space, navigate to  Space Management and create a new space.

Please consult the [help documentation](#) if you require further assistance or use the in-app product help using “F1” anytime or use the following navigation path to access the help:



For our tutorial, we will use the Space *DWC\_CONTENT*.

## PREPARE THE DATA MODEL

You have two options to consume the sample content with SAP Data Warehouse Cloud:

1. Use an SAP HANA as a remote source: Import the schema including the tables into your SAP HANA database and access it through a remote connection. Currently only SAP HANA 2.0 is supported. To access the SAP HANA system from SAP Data Warehouse Cloud you need a Data Provisioning Agent. Find the setup instructions in the Chapter “Data Provisioning Agent Setup” in the appendix.
2. Use File upload: Upload the data model as well as the data into SAP Data Warehouse Cloud via flat files.

Please find the SAP HANA export and the files on <https://github.com/SAP-samples/data-warehouse-cloud-content-beta>.

### 1. SAP HANA: Load the schema and tables including the sample data in your SAP HANA DB


The Data Provisioning Agent must be setup first, to be able to access the Bikes sample data models (tables) from SAP Data Warehouse Cloud to your SAP HANA as a remote source and any other remote data source. Please read the SAP Data Warehouse Cloud help documentation chapter “[How To Connect to Sources](#)” or use the *SAP Data Warehouse Cloud - DP Agent Installation* guide which is also available on the same GitHub page: <https://github.com/SAP-samples/data-warehouse-cloud-content-beta>.

- Download and unzip dwc\_content.zip from GitHub
- Logon to your SAP HANA system and import the package *dwc\_content.tar.gz*

Import Catalog Objects

Import objects from:








Local archive (\*.tar.gz):

<input checked="" type="checkbox"/>	Catalog Object	
<input checked="" type="checkbox"/>	DWC_DEMO	
<input checked="" type="checkbox"/>	BusinessPartners	
<input checked="" type="checkbox"/>	Addresses	
<input checked="" type="checkbox"/>	Employees	
<input checked="" type="checkbox"/>	ProductCategories	
<input checked="" type="checkbox"/>	ProductCategoryTexts	
<input checked="" type="checkbox"/>	ProductTexts	
<input checked="" type="checkbox"/>	Products	
<input checked="" type="checkbox"/>	SalesOrderItems	

☒ Include dependencies ☒ Include table data ☐ Replace existing objects

Number of parallel threads:

- Click on Import
- Once imported, the tables will appear in the schema *DWC\_Demo*

	SYSTEM,DWC_Demo_...	
	Search Tables	
	DWC_Demo_Schema Addresses	
	DWC_Demo_Schema AddressesZwo	
	DWC_Demo_Schema BusinessPartner	
	DWC_Demo_Schema Employees	
	DWC_Demo_Schema Products	
	DWC_Demo_Schema SalesOrderItems	
	DWC_Demo_Schema SalesOrders	

## 2. Upload local files to SAP Data Warehouse Cloud


As alternative to accessing the data deployed in your SAP HANA, you can directly upload the data model and data into SAP Data Warehouse Cloud. Or you can explore this option as an additional learning experience for the SAP Data Warehouse Cloud.

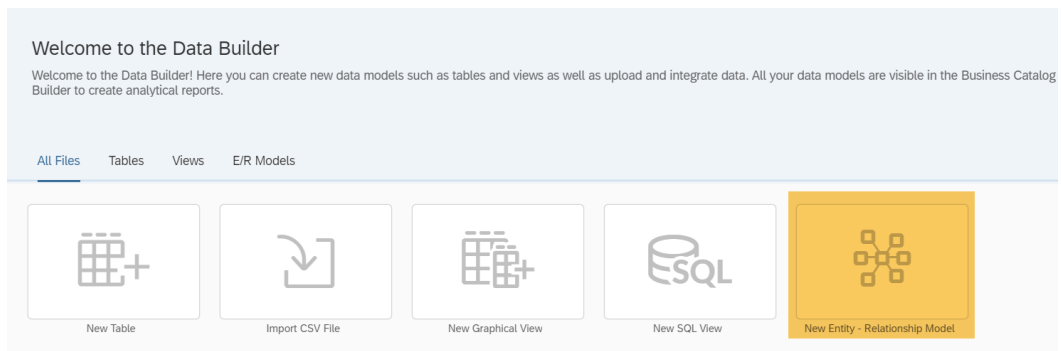
Entity-Relationship Models in SAP Data Warehouse Cloud can be expressed in CSN (Core Schema Notation), stored in JSON format.

In this chapter you will learn how to upload a CSN file (Bike Sales Model.json), specifying the Bike Sales data model to an Entity–Relationship Model in SAP Data Warehouse Cloud. Deploying this Entity-Relationship Model will generate the corresponding local tables of the model for you, which you need as a base for the modeling experience.

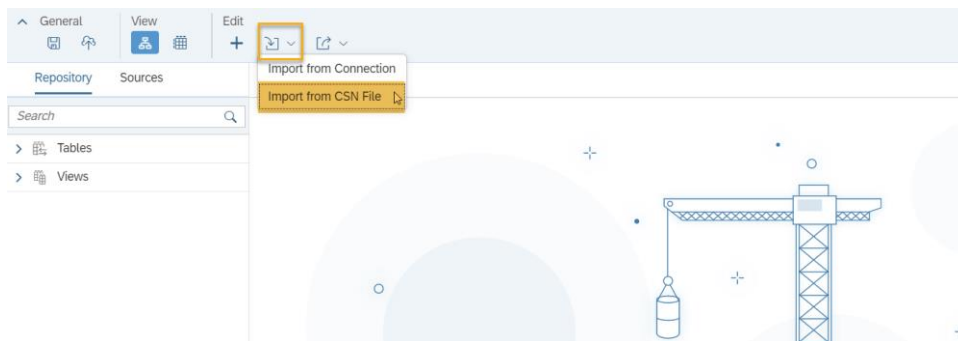
After that you can upload the CSV files containing the data into these generated local tables.

As shared in the introduction, a Space is a prerequisite to upload CSN files into a new Entity-Relationship model.

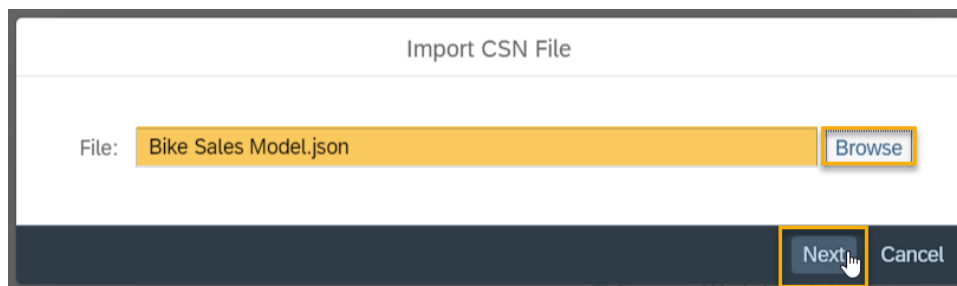
- Navigate to the  Data Builder
- If this is your first visit to the Data Builder, you need to select a Space. Select any space – for this guide “DWC\_CONTENT” is used.
- Click on “New Entity – Relationship Model”



- To import the CSN file (Bike Sales Model.json) click on the import icon and chose *Import from CSN File*.



- In the opening dialogue click *Browse* to select the CSN file (Bike Sales Model.json) which you have downloaded from github.





- In the next step either select all tables or only select tables which are not already in the repository and import them to the Entity – Relationship Modeler by pressing *Import*.

Select Objects to Import

Selected: 5

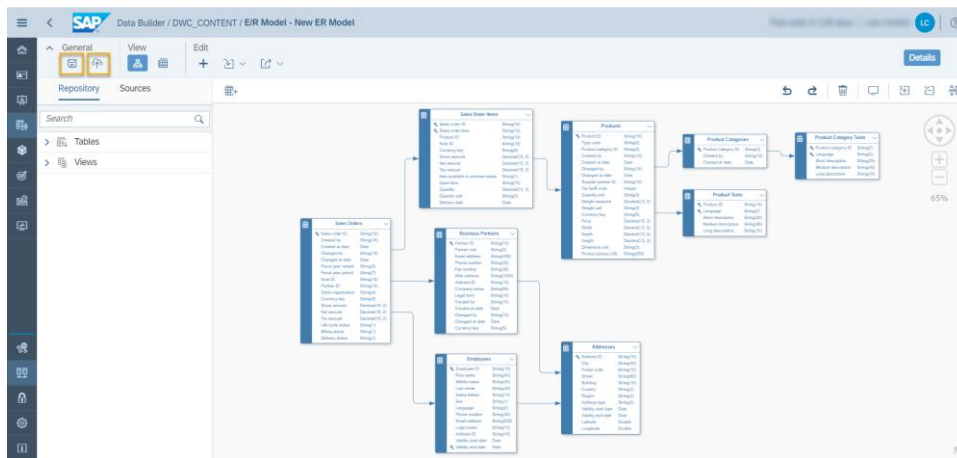
<input type="checkbox"/>	Business Name	Technical Name	Type	Status
<input type="checkbox"/>	Addresses	Addresses	Local Table	Already in repository
<input checked="" type="checkbox"/>	Business Partners	BusinessPartners	Local Table	Ready to import
<input type="checkbox"/>	Employees	Employees	Local Table	Already in repository
<input checked="" type="checkbox"/>	Product Categories	ProductCategories	Local Table	Ready to import
<input checked="" type="checkbox"/>	Product Category Texts	ProductCategoryText	Local Table	Ready to import
<input checked="" type="checkbox"/>	Products	Products	Local Table	Ready to import
<input checked="" type="checkbox"/>	Product Texts	ProductTexts	Local Table	Ready to import
<input type="checkbox"/>	Sales Order Items	SalesOrderItems	Local Table	Already in repository
<input type="checkbox"/>	Sales Orders	SalesOrders	Local Table	Already in repository

- In case the CSN file had been imported and deployed before, you will receive the following warning as the tables already exist in your system. In case the local table definitions have not been changed you can safely choose *Override*.

Confirm

Some objects exist in repository, continue import will override them. Do you want to continue?

- Now you can see the complete model with all tables and associations. It should look like the following screen shot. Save the ER model provide a name, "BikeSalesModel", and deploy it. By deploying it, the local tables are generated.

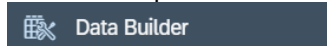


The screenshot shows the 'Save Model' dialog box in SAP Data Builder. It contains two input fields:
 

- Business Name:** The text 'BikeSalesModel' is entered.
- Technical Name:** The text 'BikeSalesModel' is entered.

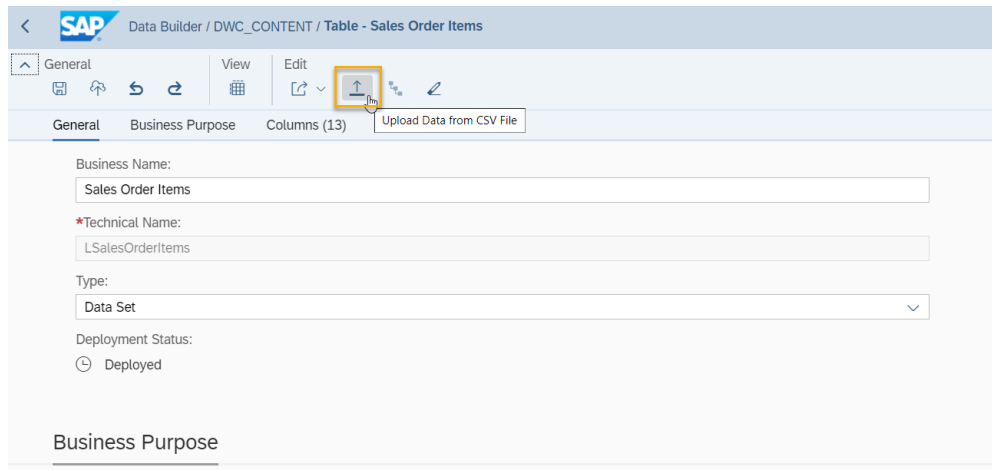
 At the bottom of the dialog, there are two buttons: 'Save' (highlighted in green) and 'Cancel'.

- In the next step the data for the tables needs to be uploaded. Therefore, go back to the



- Now search for your created local tables in the bottom panel. To start click on the *SalesOrderItems* table.

- In the detail view of the local table choose to *Import/Upload File*.



SAP Data Builder / DWC\_CONTENT / Table - Sales Order Items

General View Edit

Business Name: Sales Order Items

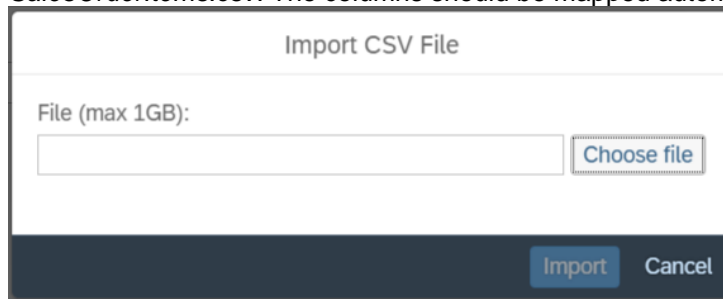
\*Technical Name: LSalesOrderItems

Type: Data Set

Deployment Status: Deployed

Business Purpose

- Search for your CSV-file named *SalesOrderItems.csv*. The columns should be mapped automatically.



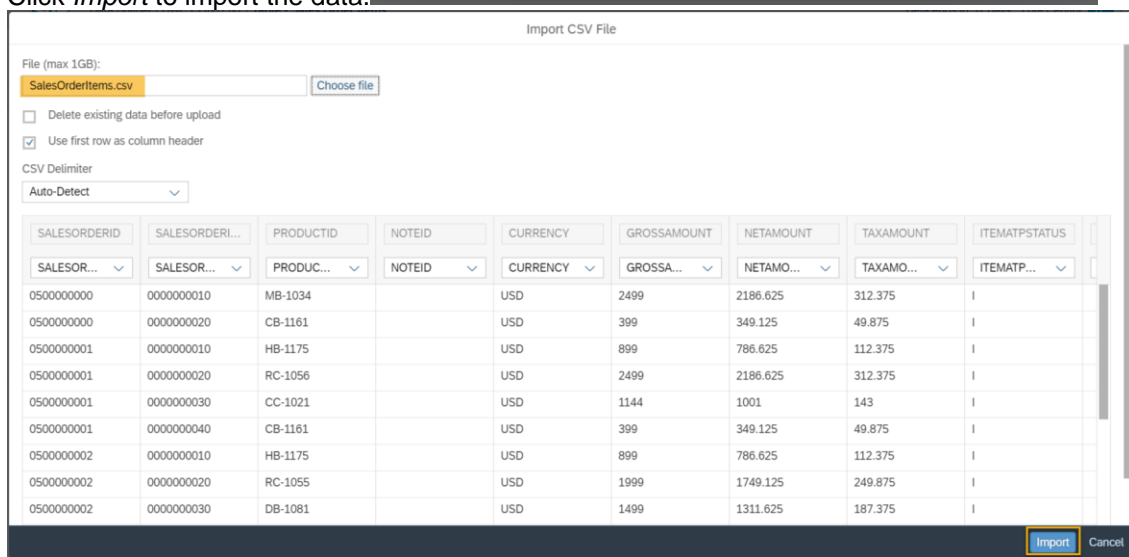
Import CSV File

File (max 1GB):

Choose file

Import Cancel

Click *Import* to import the data.



Import CSV File

File (max 1GB): SalesOrderItems.csv Choose file

☐ Delete existing data before upload

☒ Use first row as column header

CSV Delimiter: Auto-Detect

SALESORDERID	SALESORDERI...	PRODUCTID	NOTEID	CURRENCY	GROSSAMOUNT	NETAMOUNT	TAXAMOUNT	ITEMATPSTATUS
SALESOR...	SALESOR...	PRODUC...	NOTEID	CURRENCY	GROSSA...	NETAMO...	TAXAMO...	ITEMATP...
0500000000	0000000010	MB-1034		USD	2499	2186.625	312.375	I
0500000000	0000000020	CB-1161		USD	399	349.125	49.875	I
0500000001	0000000010	HB-1175		USD	899	786.625	112.375	I
0500000001	0000000020	RC-1056		USD	2499	2186.625	312.375	I
0500000001	0000000030	CC-1021		USD	1144	1001	143	I
0500000001	0000000040	CB-1161		USD	399	349.125	49.875	I
0500000002	0000000010	HB-1175		USD	899	786.625	112.375	I
0500000002	0000000020	RC-1055		USD	1999	1749.125	249.875	I
0500000002	0000000030	DB-1081		USD	1499	1311.625	187.375	I

Import Cancel

- You can also preview the content of the table. The preview pane will appear on the bottom part of the page displaying the data.

The screenshot shows the SAP Data Builder interface for a table named 'Sales Order Items'. The 'General' tab is active, displaying fields for Business Name (Sales Order Items), Technical Name (LSalesOrderItems), Type (Data Set), and Deployment Status (Deployed). A 'View' button is highlighted with a red box. Below the configuration, a 'Data Preview' section shows a table with 7 columns: SALESORDERID, SALESORDERITEM, PRODUCTID, NOTEID, CURRENCY, GROSSAMOUNT, and NETAMOUNT. The preview displays 8 rows of sample data.

SALESORDERID	SALESORDERITEM	PRODUCTID	NOTEID	CURRENCY	GROSSAMOUNT	NETAMOUNT
0500000000	0000000010	MB-1034		USD	2499.00	2186.63
0500000000	0000000020	CB-1161		USD	399.00	349.13
0500000001	0000000010	HB-1175		USD	899.00	786.63
0500000001	0000000020	RC-1056		USD	2499.00	2186.63
0500000001	0000000030	CC-1021		USD	1144.00	1001.00
0500000001	0000000040	CB-1161		USD	399.00	349.13
0500000002	0000000010	HB-1175		USD	899.00	786.63

- Repeat these steps for the tables *Addresses*, *BusinessPartners*, *Employees*, *ProductCategories*, *ProductCategoryTexts*, *Products*, *ProductTexts* and *SalesOrders*.

**After all CSV files have been uploaded you have successfully prepared the data model.**

## USE THE BEST RUN BIKES SALES DEMO CONTENT TO BUILD THE ANALYTICS

### Use sample data

To use the Bikes Sales sample data model, a connection to SAP HANA from SAP Data Warehouse Cloud needs to be added. In case SAP HANA will not be used, the tables that have been created using "Import / Upload File" capabilities will be used instead.

### Connect to SAP HANA

- Create a connection to your SAP HANA database

Navigate to  **Space Management** and create a new connection to SAP HANA:

The screenshot shows the 'Connections' tab in the SAP Data Warehouse Cloud interface. The 'Connection Assignment' section is active, displaying a table with columns: Name, Type, Owner, and Creation Date. The table is currently empty, with a 'No data' message at the bottom. A red box highlights the '+' icon in the top right corner of the table, indicating the option to add a new connection.

Name	Type	Owner	Creation Date
No data			

Choose SAP HANA:

Create Connection

1 Choose your connection type — 2 Pick a name and location — 3 Enter Connection Properties

Viewing 3 out of 3

Search

SAP ABAP

SAP HANA

Generic OData

Cancel

Enter at a *Business Name* and a *Technial Name*. You may also enter a *Description*. Choose your *Data Provisioning Agent*.

Create Connection

1 Choose your connection type — 2 Pick a name and location — 3 Enter Connection Properties

Connection Information

Business Name: DWC Content

\*Technical Name: DWC\_CONTENT ?

Description: HANA Connection to SAP DWC content

\*Data Provisioning Agent:

Next Step Cancel

Maintain the mandatory field in the following dialog and adjust the *Connection Security* if applicable. Confirm with *Create Connection* to create the connection. You find this information in the SAP HANA Service Dashboard: Use the information provided under Endpoints – Direct SQL Connectivity, or in case you are using HANA Studio, find this information in the *Properties* of your SAP HANA system.

Create Connection

1 Choose your connection type

2 Pick a name and location

3 Enter Connection Properties

---

Database

\*Host:

\*Port Number:

Connection Security

Enable SSL encryption:

Validate Server Certificate:

Credential Mode:

Credential

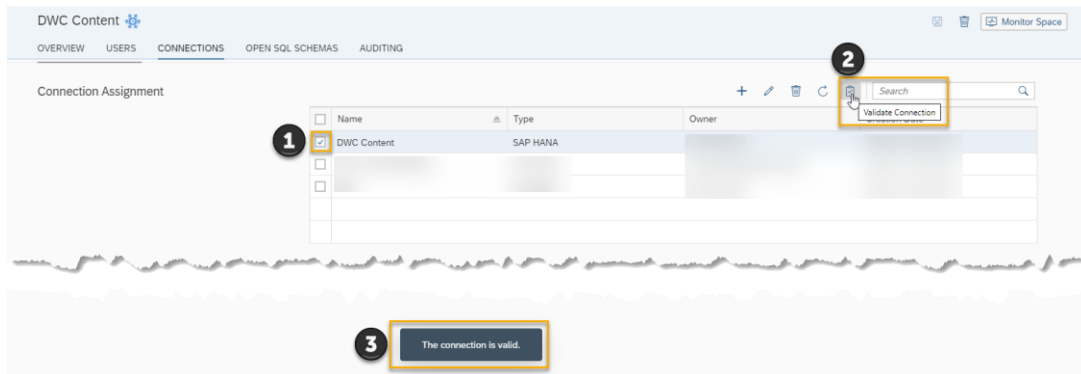
\*User (Case Sensitive):

\*Password:

Create Connection

Cancel

You may validate your connection by selection the connection (1), then press *Validate Connection* icon (2). A toast at the end of the screen will indicate the result (3)



You have successfully created and validated the connection in the space.

## Use CSV Files

As the CSV files have been uploaded to SAP Data Warehouse Cloud in the “Prepare the Data Model” step, there are no further steps necessary to start the data modeling.

## Data Modeling – Basics


Now as the data source is prepared either through having connected to the SAP HANA or through having uploaded the CSV files, let’s start the data modeling in SAP Data Warehouse Cloud.

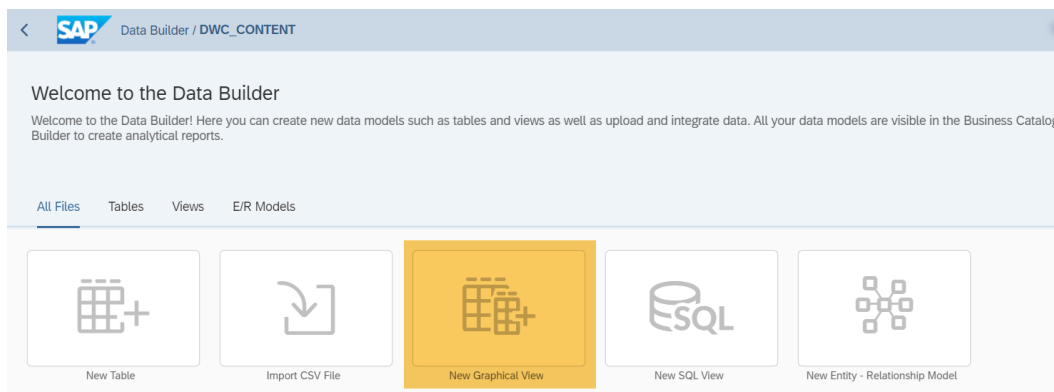
SAP HANA will be used as a source for the walkthrough and screenshots. It will be always mentioned how to apply a step using CSV files.

The following steps will navigate through the solution to introduce and learn the functionality to create a report with the minimum steps needed. This means we basically will use the facts *SalesOrders* and *SalesOrderItems* only.

Subsequently we will enhance the model to create the reports laid out in the “Story Line” chapter at the beginning of this document in the chapter “Data Modeling – Full Modell” following this one.

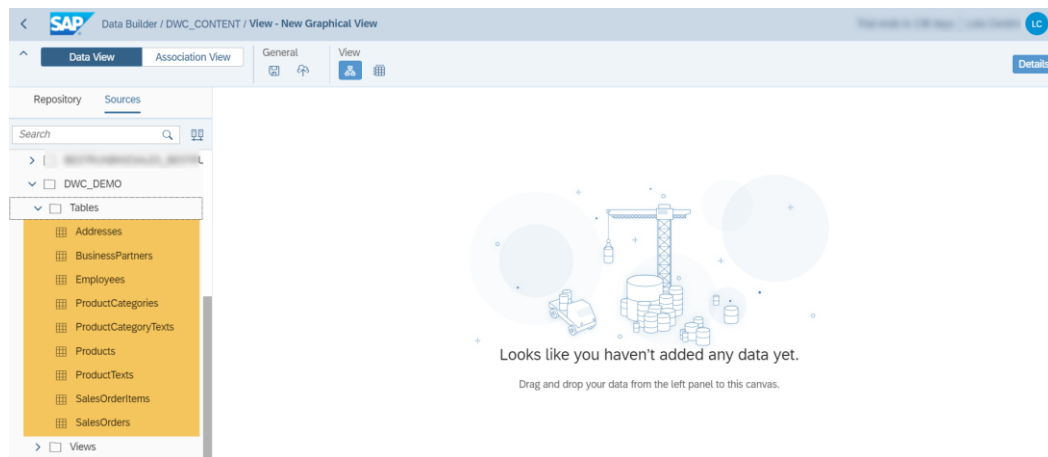
Let’s start:

- 1.) To build a data model, navigate to the  **Data Builder**
- 2.) If this is your first visit to the Data Builder, you need to select a Space. Select the Space you just have assigned the connection to – for this guide “DWC\_CONTENT” is used.
- 2.) In the entry screen different modeling options are available: let’s start with the Graphical View:

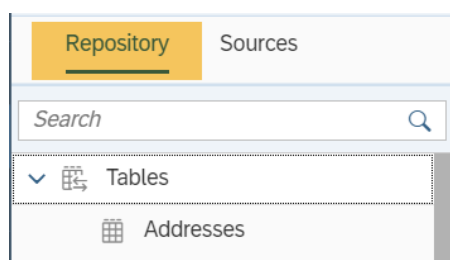


- 3.) To access the sample data model in the remote HANA system, navigate to “Sources” in the left panel and then open “Connections” and drill further to “DWC\_CONTENT” in your HANA system:



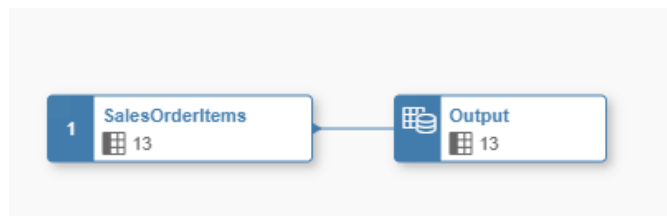


**CSV files:** In the left tab, navigate to *Repository* and select the tables you have created while uploading the CSV files:

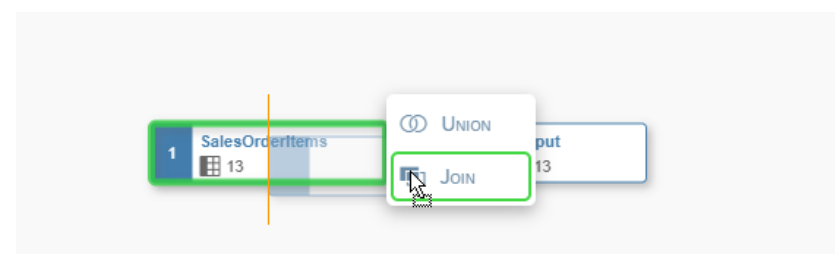


Remark: if you already have used an object, you can directly access it from the *Repository*.

- 4.) To start modeling, Drag and Drop a table. Build the data foundation with the *SalesOrderItems* and *SalesOrders* table: Drop the *SalesOrderItems* to the modeling area:



- 5.) Add the *SalesOrders* by dragging and dropping it on the *SalesOrderItems* in the canvas. An additional option to choose the join criteria appears, choose *Join*:



Note: If a table with the same name already exists you have the option to rename the table and import it.

Import Table

Business Name:

SalesOrders

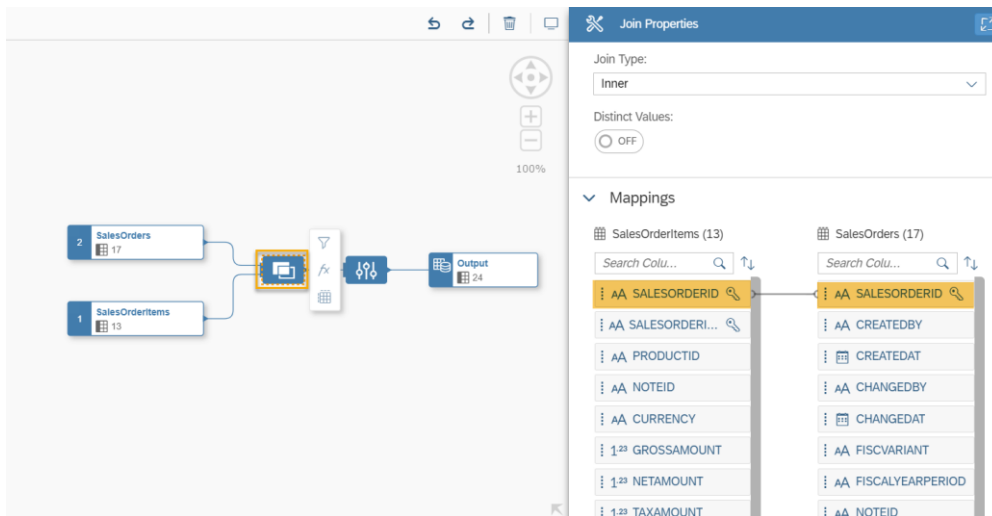
Technical Name:

SalesOrders\_2

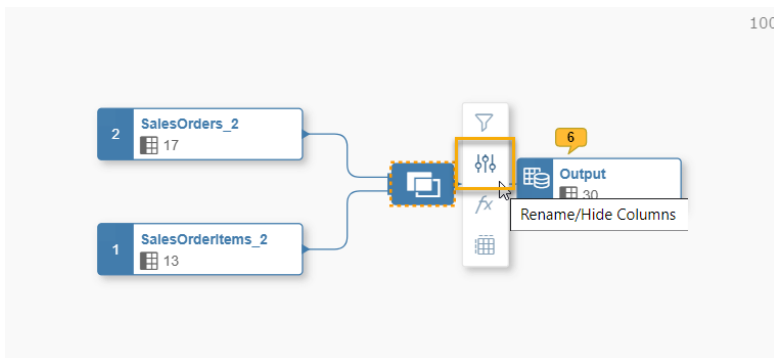
Import and Deploy

Cancel

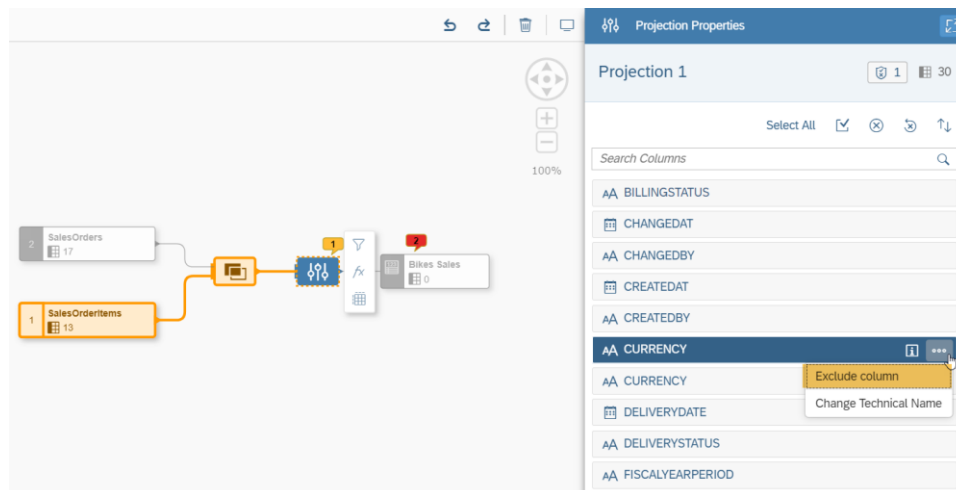
As a result, you now created a first join: The mapping has been made automatically, but you can also add it manually in the “Join Properties” panel on the right. To open the panel click on the join in the canvas. Map the column SALESORDERID by drag and drop.



Next to the join, a “Rename/Hide Columns” has been added automatically. This has been added to remove duplicated columns from a join activity. This property can also always be added manually. Therefore, click on “Rename/Hide Columns” in the context menu of the join.



If the redundant columns are not automatically set to hidden, you can set all the redundant columns to hidden.



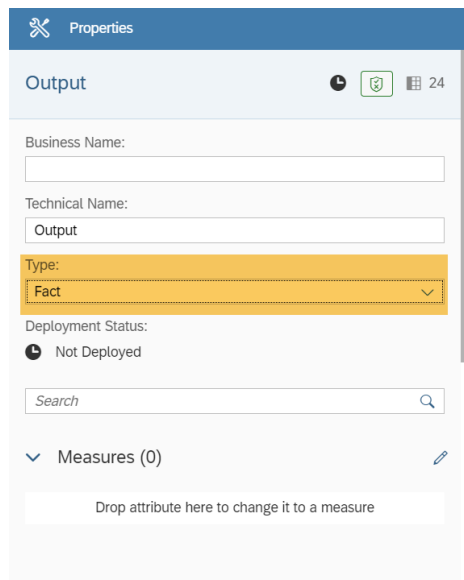
The screenshot shows the details of the “Remove Columns Properties”. If you mark a column in the panel it is shown from which view a column is sourced.

A preview of the data can be done at any time, even before a view is saved or deployed: click on *Output* and in the now appearing menu, click *Preview Data*. The preview is shown in the lower area of the screen:

SALESORDERID	SALESORDERITEM	CREATEDBY	PRODUCTID	CREATEDAT	NOTEID
0500000000	0000000010	0000000004	MB-1034	2018-01-11	
0500000000	0000000020	0000000004	CB-1161	2018-01-11	
0500000001	0000000010	0000000002	HB-1175	2018-01-12	
0500000001	0000000020	0000000002	RC-1056	2018-01-12	

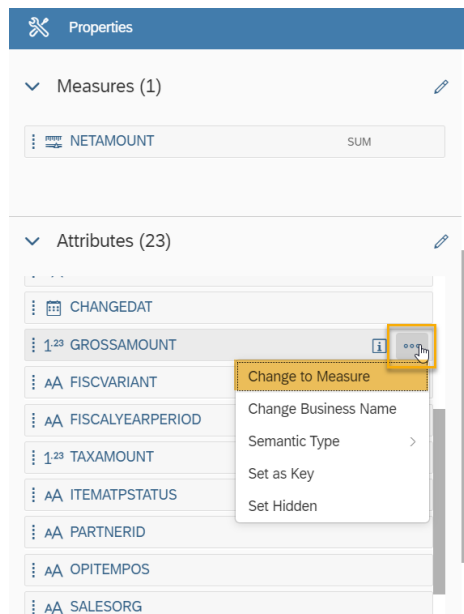
- 6.) Let's already see how this looks in a report. Before being able to create the first report, the model needs to be saved and deployed. But before doing this, the view type needs to be set accordingly.

In the *Properties* pane on the right change the *Type* to *Fact*



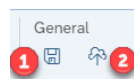
- 7.) After having changed the type to *Fact*, you need to move the columns that are measures from the *Attributes* to the *Measures*. You can either drag & drop a column or you use the context menu in the right area of a column (indicated by the three dots, once the mouse cursor hovers this area) and click *Change to Measure*.

Make GROSSAMOUNT, NETAMOUNT, TAXAMOUNT and QUANTITY a measure.



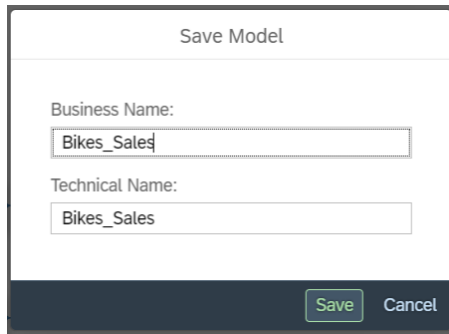
- 8.) Now let's save and the deploy the model. Either click the save button (1) first and then deploy (2), or

directly save and deploy clicking the deploy button (2):



A model can only be used for reporting once it is deployed.

You will be prompted to enter a *Model Name*:

A dialog box titled "Save Model" with two input fields. The first field is labeled "Business Name:" and contains the text "Bikes\_Sales". The second field is labeled "Technical Name:" and also contains the text "Bikes\_Sales". At the bottom right, there are two buttons: "Save" (highlighted in green) and "Cancel".

Click Save and wait until the following message appears at the bottom

Model saved successfully.

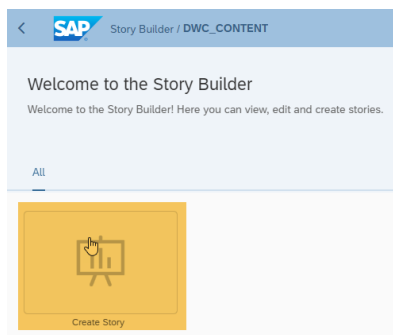
After a successful deployment the following message will be shown

Deployment successful.

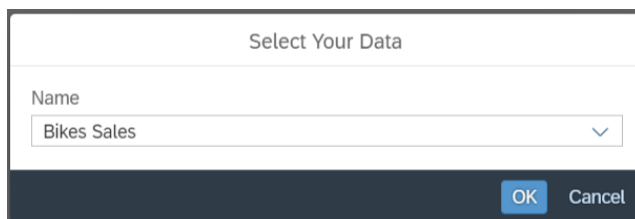
9.) Let's create the first visualization: navigate to the

 Story Builder

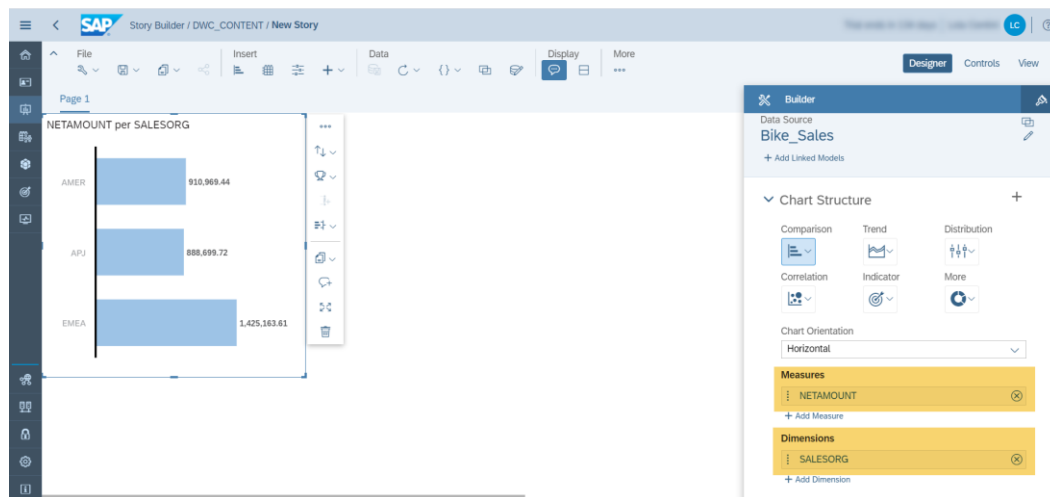
10.) Create a new story:



11.) Choose the Bikes Sales data model that you have just created and click *OK*:

A dialog box titled "Select Your Data". It has a label "Name" above a dropdown menu. The dropdown menu currently shows "Bikes Sales" with a downward arrow. At the bottom right, there are two buttons: "OK" (highlighted in blue) and "Cancel".

12.) Add a chart and assign a measure and a dimension. Choose NETAMOUNT as Measure and SALESORG as a Dimension and save your story as *Bike Sales Report*.



**You have successfully created your first model and report in SAP Data Warehouse Cloud.**

## Data Modeling – enhanced Model

Now as the foundation is created and you have been introduced to the basics to connect to a data source, create a data model using a join and building an SAP Analytics Cloud story, this knowledge will be used to enhance the model and explore further functions and capabilities of SAP Data Warehouse Cloud.

After these steps, all reports that have been requested by the Sales Department can be delivered.

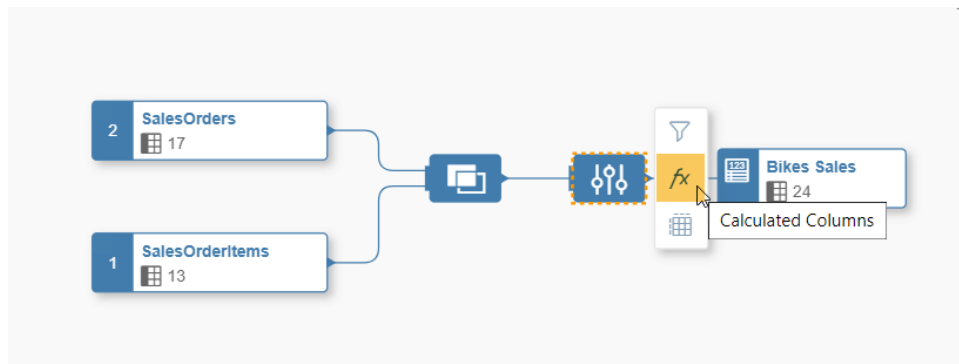
Let's continue and enhance the model with the following:

- master data objects for products, business partners, employees,
- add those master data objects to our Bikes Sales model
- rename measures and master data dimension that are needed for our reports to speaking names for the reports
- use further functionalities like calculated columns

### Calculated Columns

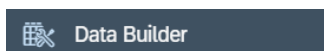
To enhance the model calculated columns can be added.

- First click in the Projection and in the appearing menu choose to create a calculated column

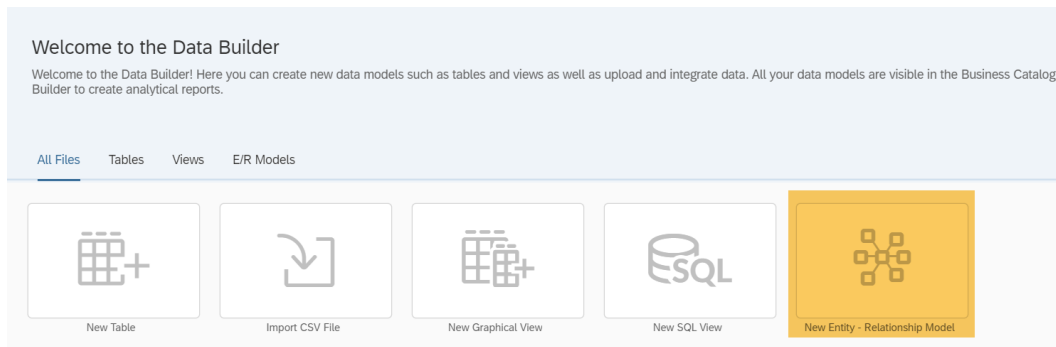


### Master Data

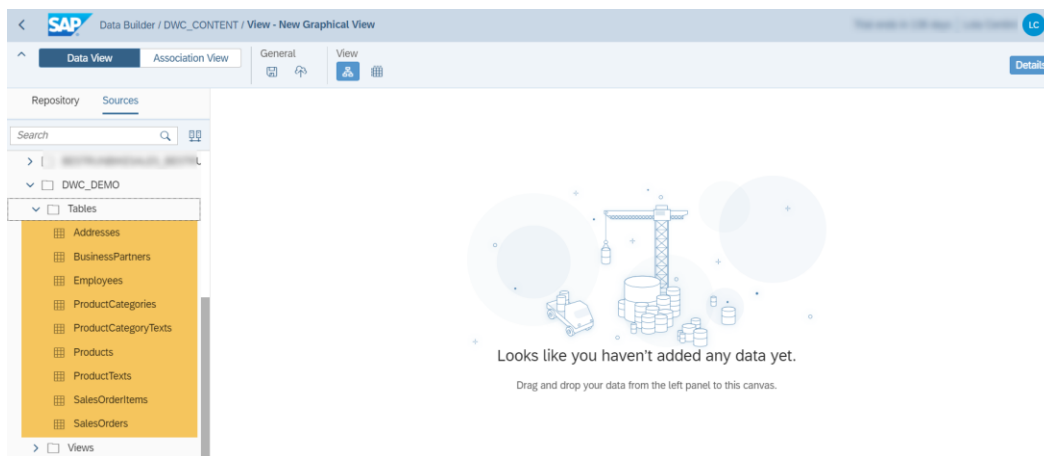
- To create master data objects for products, business partners and employees navigate to the



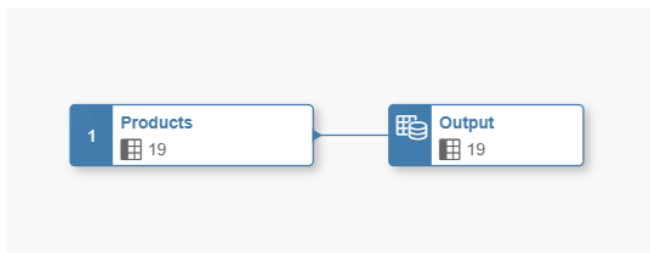
- Let's create a new graphical view.



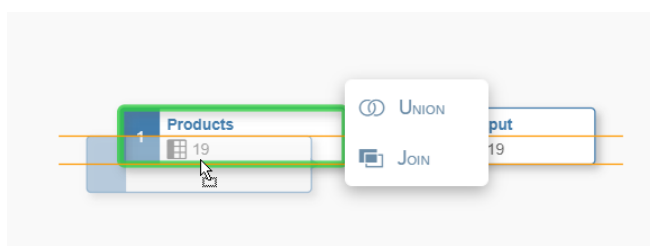
- Find your tables in the left panel. To access the data models from the remote HANA connection search in "Connections", for CSV-Files search in "Repository"



- Let's start with the products master data model. Therefore, you need the tables *Products*, *ProductCategories* and the corresponding *ProductTexts* and *ProductCategoryTexts*. You can find further information about the associations and attributes in the Appendix.
- To start drag and drop the *Products* table into the modeling area.

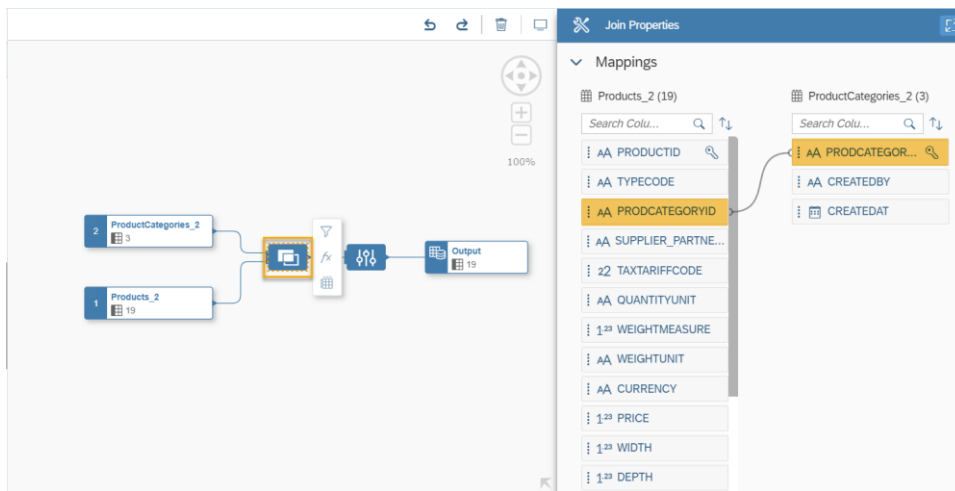


- To perform a join, drag the table *ProductCategories* onto the *Products* in the canvas.

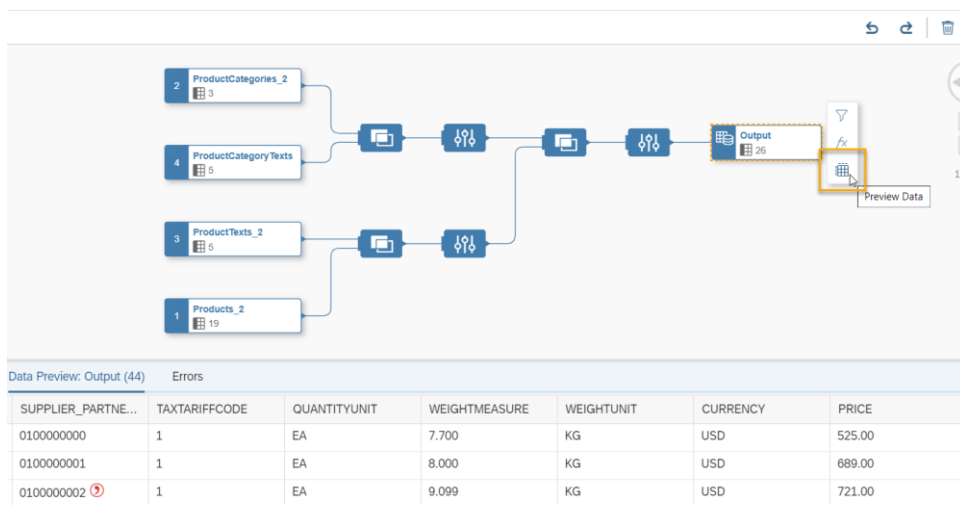




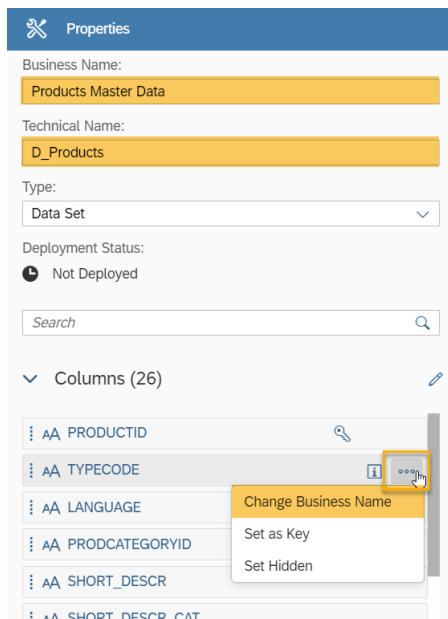
- Now you have created your join. The mapping has been made automatically, but you can also add it manually in the “Join Properties” panel on the right. Map the PRODUCTCATEGORYID by drag and drop. Then also in the right panel “Remove Columns Properties” disable the doubled columns.



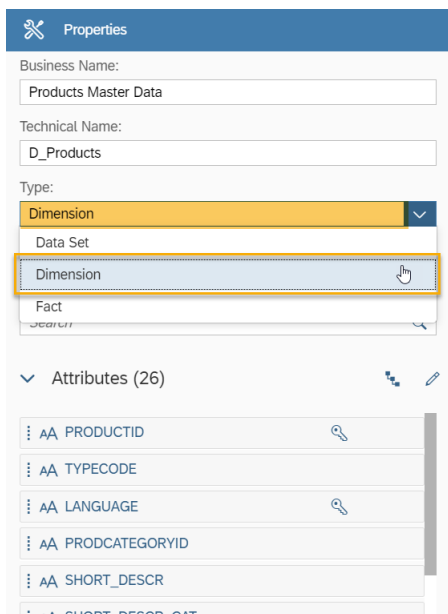
- Repeat the steps to join the corresponding *ProductTexts* onto the *Products* and the *ProductCategoryTexts* onto *ProductCategories*. Then you can already preview your products master data.



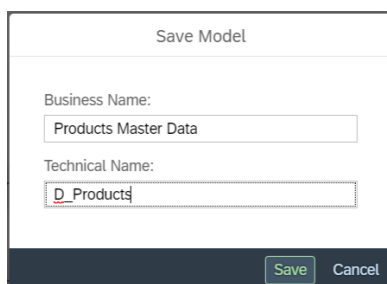
- To enable more speaking names, you can change the business names. Go to the “Properties” panel on the right and change the business name of the model as well as the properties.



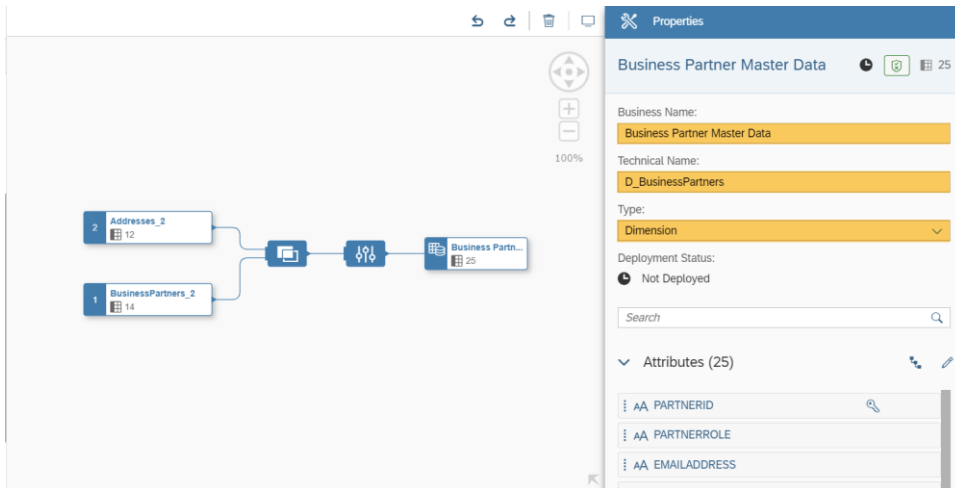
- Before saving it, you need to make the model a dimension. In the right panel “Properties” change the type to “Dimension”.



- Now save and deploy the model. Name the new model “D\_Products”.

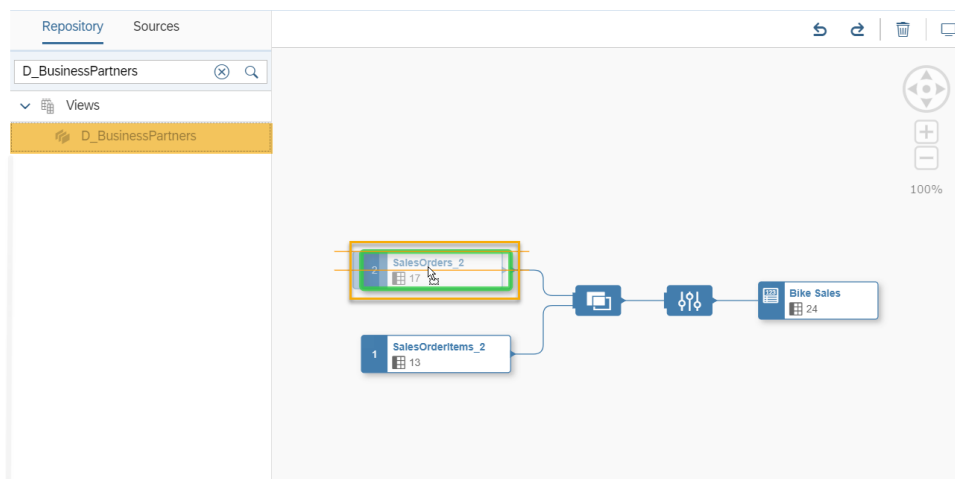


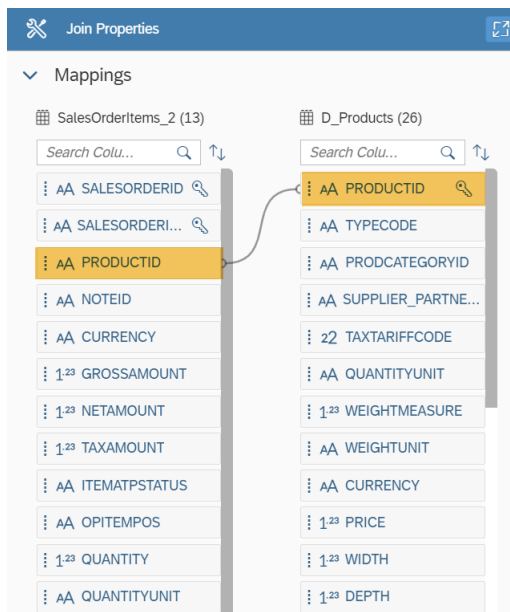
- To create the master data for the business partners, use the same schema. To join the tables BusinessPartners and Addresses, map the columns ADDRESSID. Save the model as a dimension with the name “D\_BusinessPartners”. The model should look like this:



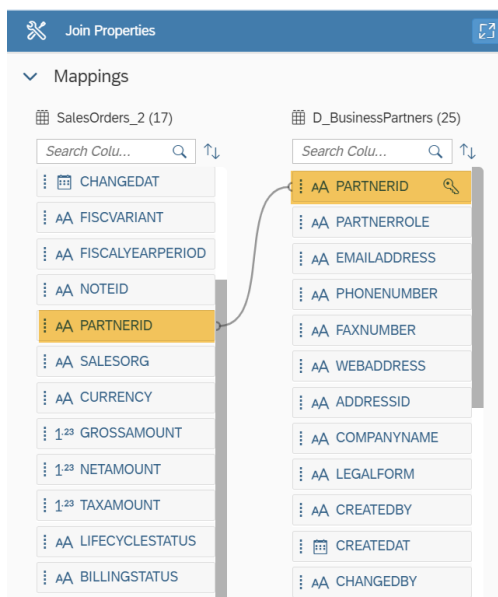
### Enhance Fact View

- The new models now need to be added to the main model. Navigate to the **Data Builder** and choose the *Bikes\_Sales* model. On the left side search for your created dimensions in “Repository”, “Views”.
- Drag and drop your *D\_BusinessPartners* dimension from the repository onto the *SalesOrders* in the modeling area. The join should be on the columns PARTNERID.

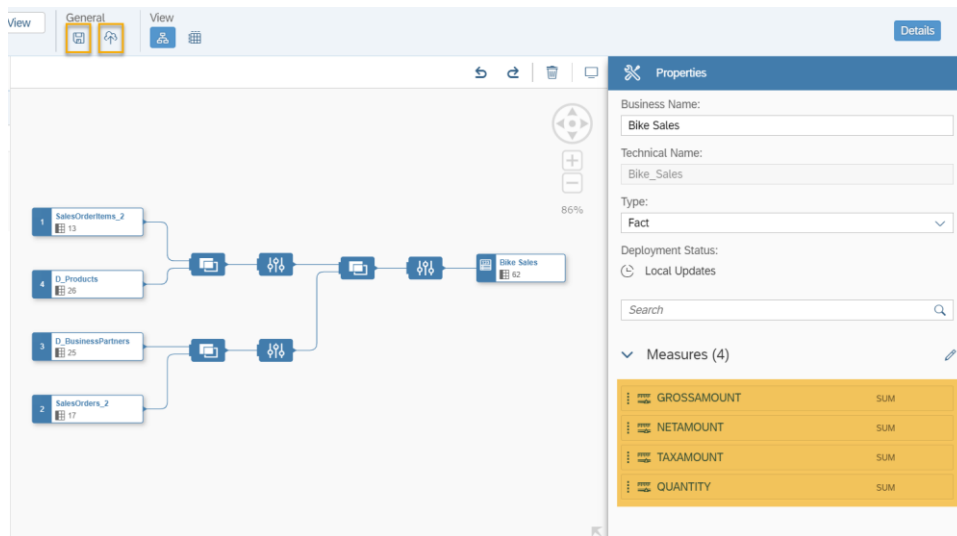




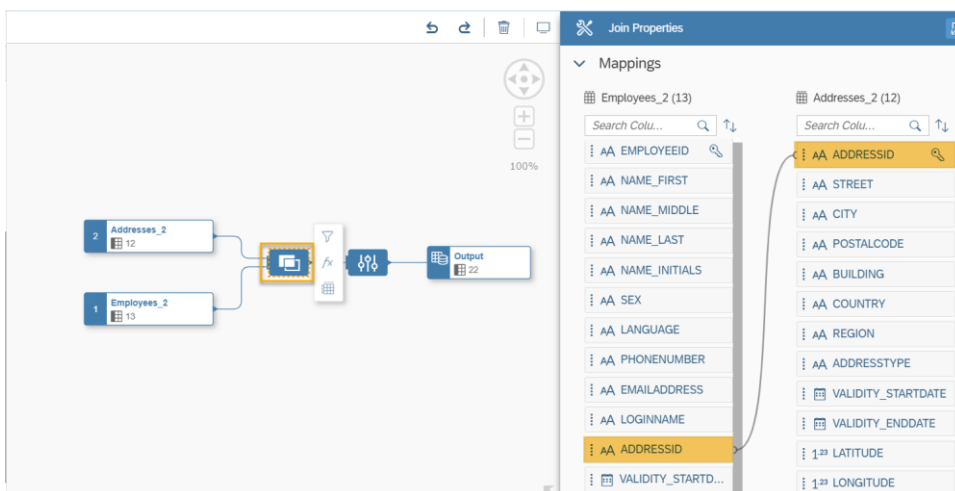
- The *D\_Products* model should be joined with the *SalesOrderItems* table. Therefore, map them on the *PRODUCTID* as shown before.



- Disable any redundant columns but make sure you disable the ones from the master data and not from the *SalesOrders* or *SalesOrderItems*. Then control the measures. If your model looks like the following save and deploy.



- For finding our Best Sales Representative, you first need to prepare the master data for the employees. The Employees table needs to be enriched with data about the addresses. For this reason, we need to create another new view, as explained in the steps before.
- This time join the Employees and the Addresses table on the column ADDRESSID.



- When finished save and deploy the model under the name "D\_Employees".

Save Model

Business Name:


Employees Master Data

Technical Name:

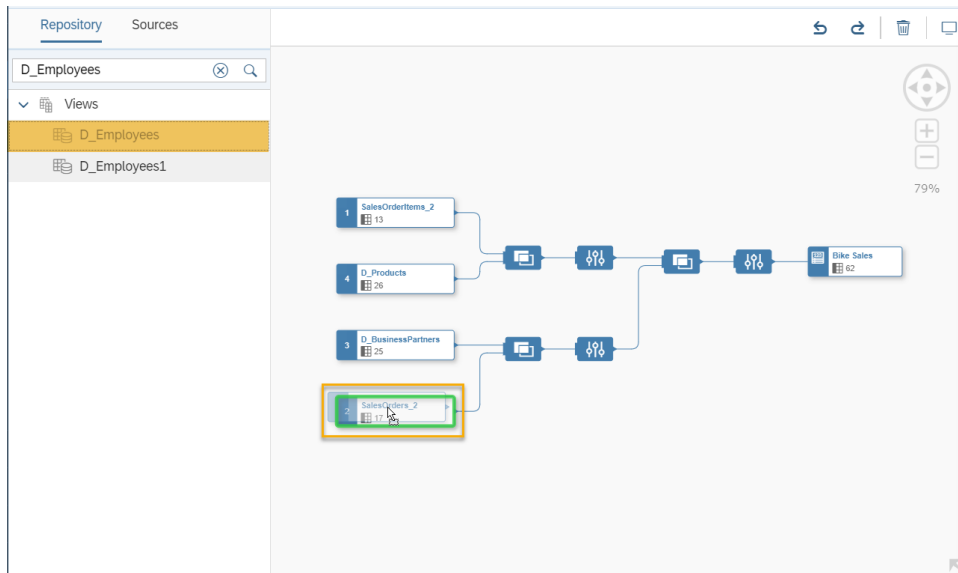
D\_Employees

Save

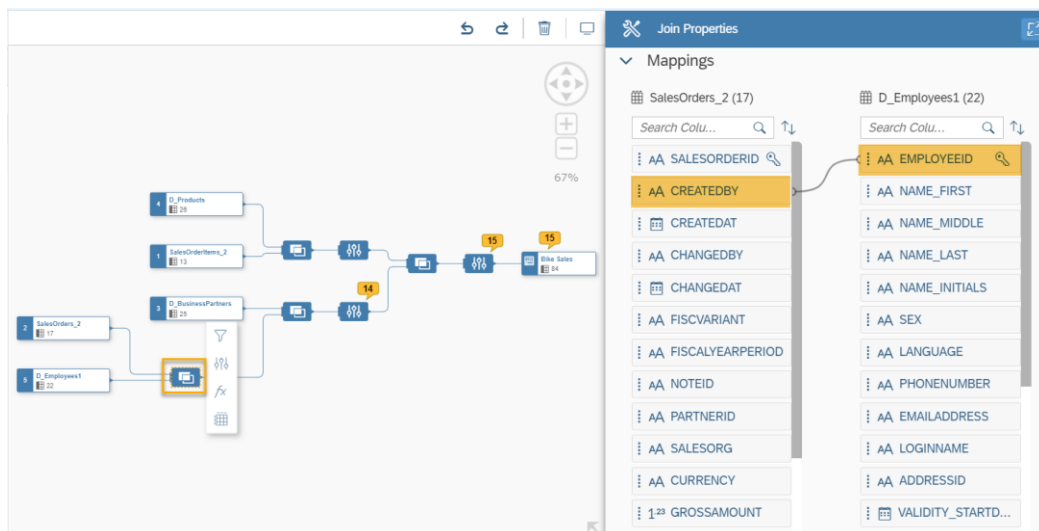
Cancel

- To connect the employees to the sales orders, go back to the  **Data Builder** and click on your *Bikes\_Sales* Fact to edit it.

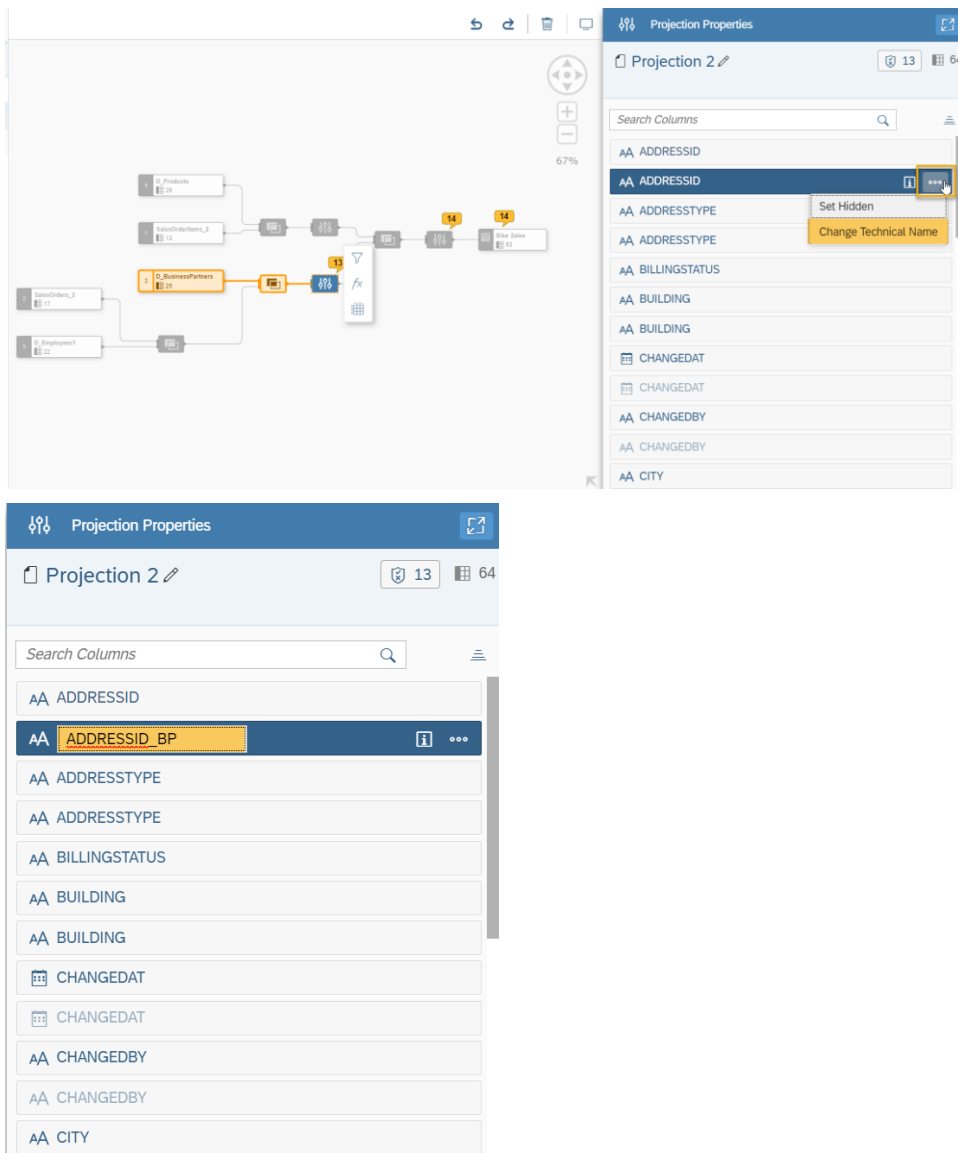
- Let's add our Employees dimension. In the left panel go to "Repository" and find your *D\_Employees* in the "Views". Drag and drop it onto the *SalesOrders* in the modeling area.



- This time map the **EMPLOYEEID** to the **CREATEDBY** column of the *SalesOrder* table.



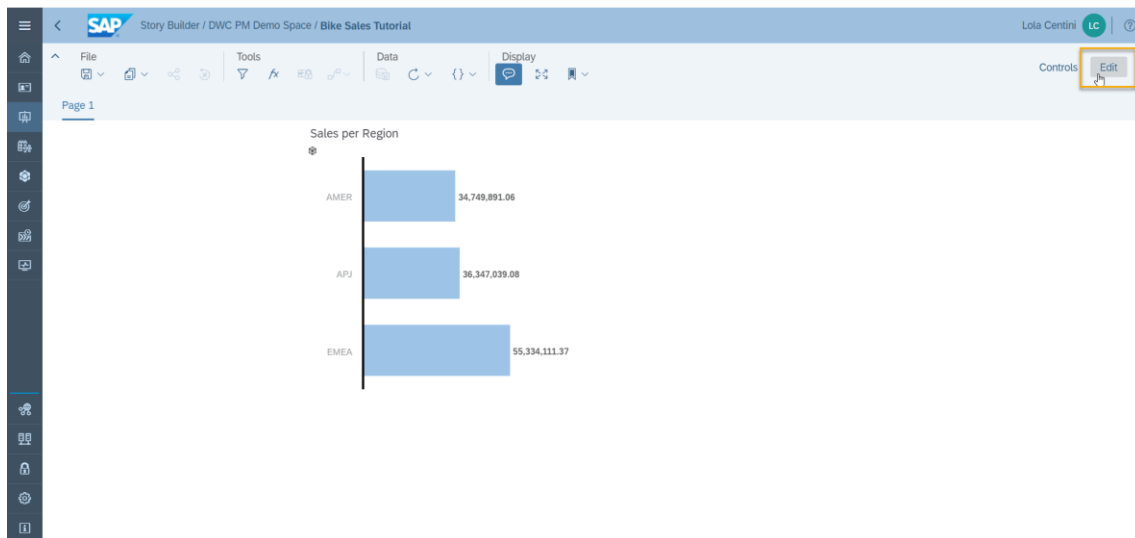
- To ensure there are no redundant columns change the technical name for the columns from the *D\_BusinessPartners* dimension. Rename them with a different ending. Or if the columns are not needed set them hidden.



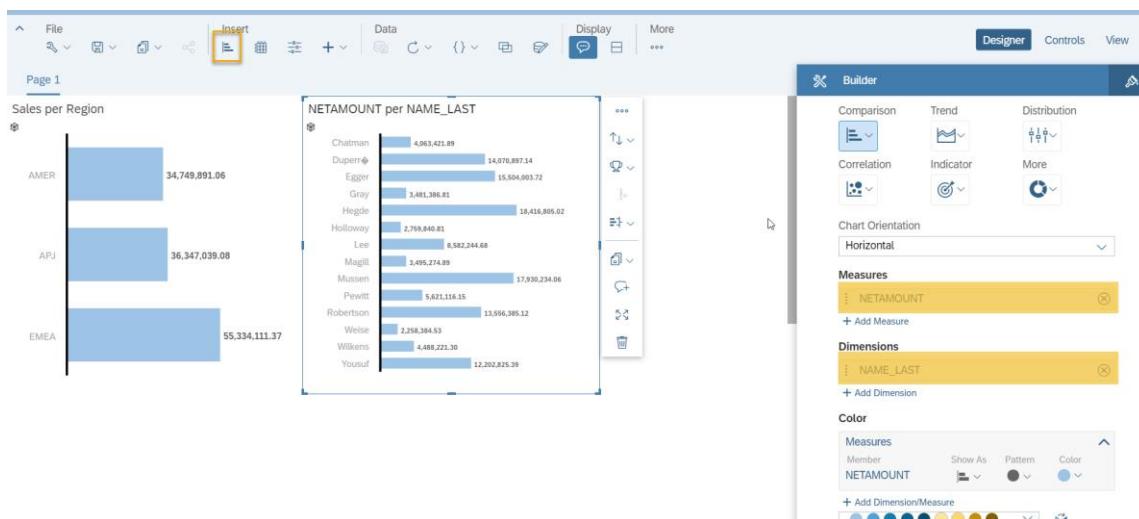
- Click in the output and check in the right panel, whether all measures are set to measures. You can already preview your data. When everything is correct, save and deploy.

- To continue with the visualization, navigate to the **Story Builder** and choose your space. Search for the Bike Sales Report you created earlier.

- To start enable editing in the upper right corner.

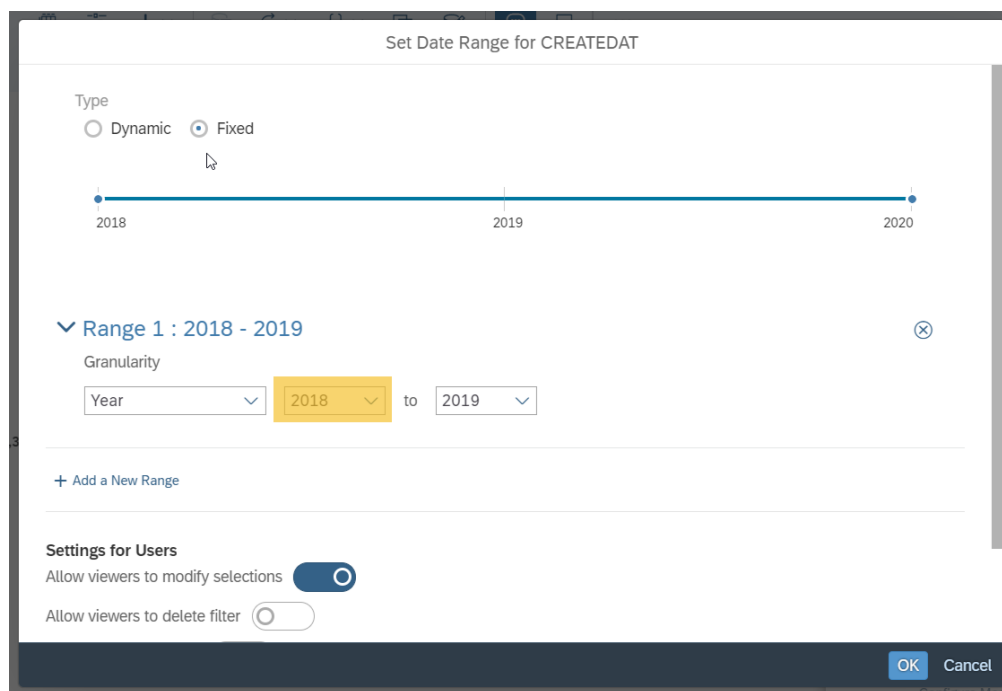
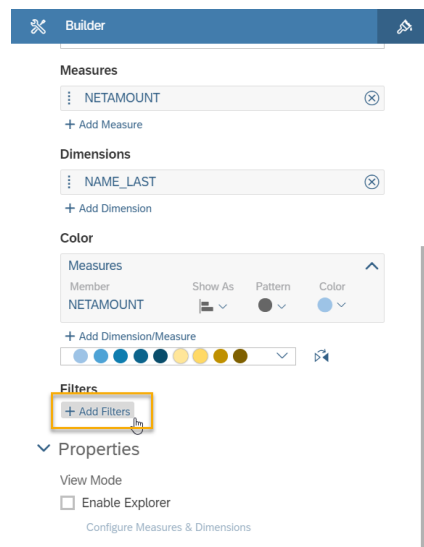


- Insert a new chart and assign a measure and a dimension. Choose NETAMOUNT as Measure and NAME\_LAST as a Dimension.



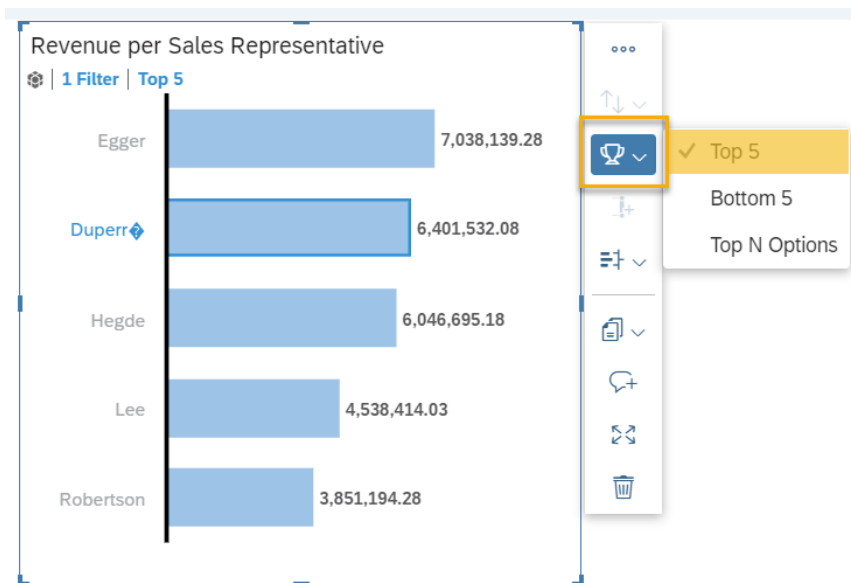


- Only the newer numbers are relevant for choosing the best sales representative. Filter for this year only. Choose the CREATEDAT (Range) for the filter. In the popup change the date range to 2019- 2019 to show this year's sales only.

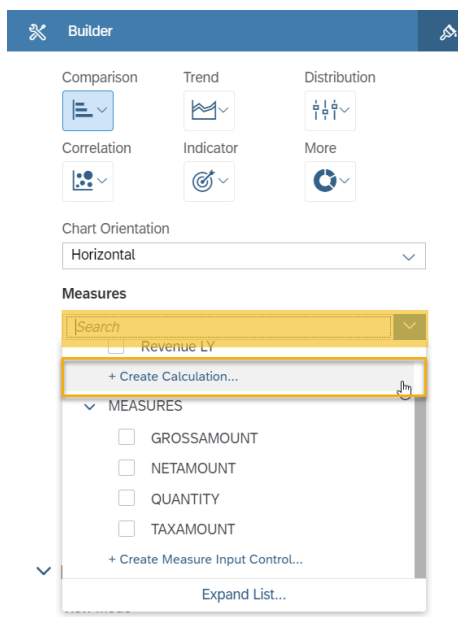


- To have a more speaking name change the title of the chart to “Revenue per Sales Representative”

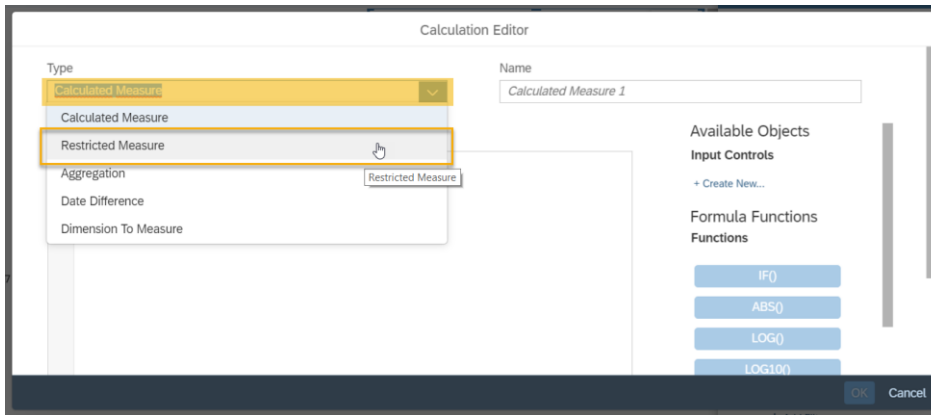
- Possible options are to show only a selection for example the top 5 representatives. In the menu next to the chart choose the option “Top 5”.



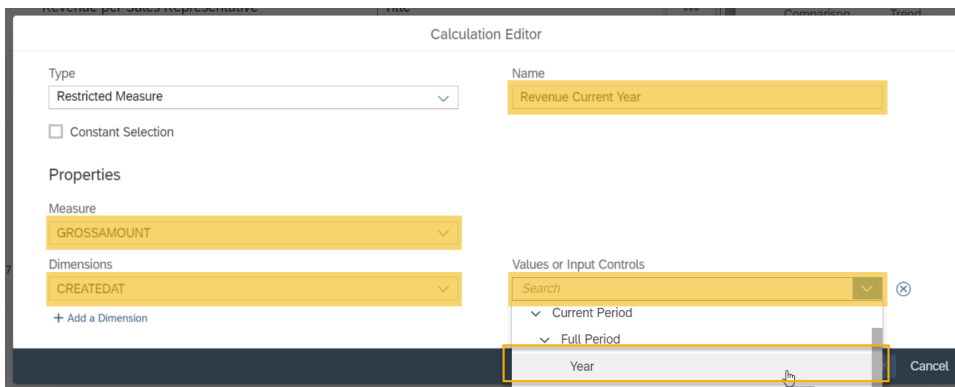
- To finish the requested reports the Year-over-Year Sales Comparison is needed. All the models are already prepared. In the SAC the numbers only need to be combined. To do so insert a new chart and then create a new calculated measure in the builder panel at the right.



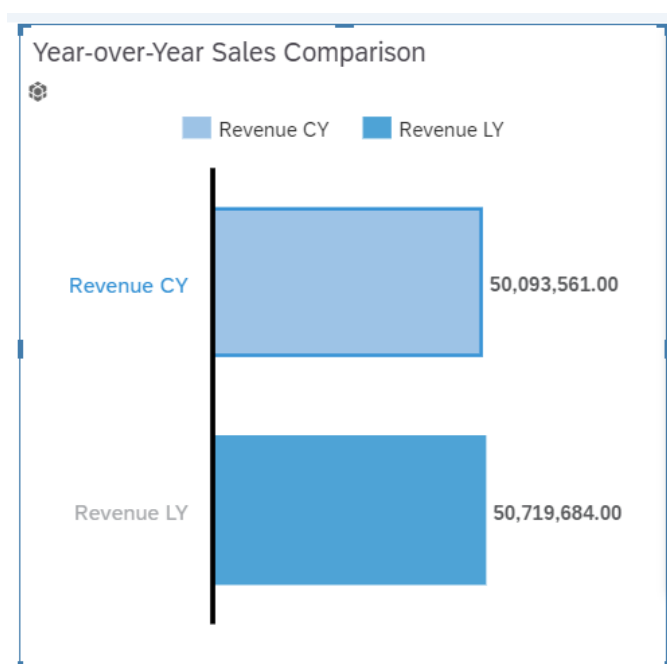
- In the following popup first change the type to a “Restricted Measure”.



- In the editor now change the name to “Revenue Current Year”. Set the measure to GROSSAMOUNT and the dimension to CREATEDAT. Then choose the value for the creation date. For the current year go to “Current Period”, “Full Period” and choose “Year”.



- For comparison to the last year repeat the steps and name the measure “Revenue Last Year”. This time choose the “Previous Period” as the value. Now your report for the Year-over-Year Sales Comparison should look like this:

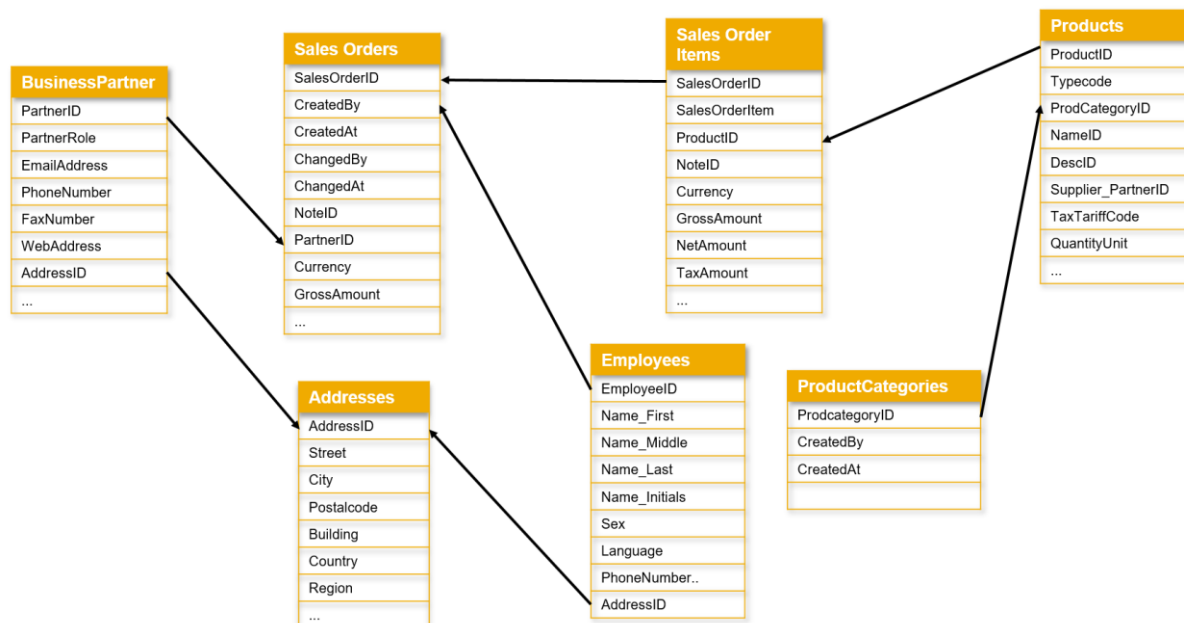


## APPENDIX

### Technical Details of the Bikes samples data model

#### Demo Content: Table Description

The demo content mentioned in this document is based on a Sales Order scenario. The model is developed in a way that it covers the basic scenarios as well as a few advanced scenarios.



#### SalesOrders

This dataset contains consolidated order details with Gross Amount, Net Amount, and Tax Amount aggregated for each order, i.e. one row per order. It also contains Partner information, creating employee, Sales Organization for region details (for e.g. EMEA, APJ, etc.) and most importantly, the three status flags for an order – BillingStatus, DeliveryStatus, LifecycleStatus. These status flags have three possible values – I (In Progress), C (Completed) and X (Canceled).

**Foreign keys in this dataset** – CreatedBy and ChangedBy (EmployeeID from Employees), PartnerID (PartnerID from BusinessPartner)

#### SalesOrderItem

This dataset contains the breakdown of each order from SalesOrders, therefore, redundant data for SalesOrderID is included. This is the right place to find the products that have been ordered, quantity of the products, and pricing details for each product. The DeliveryDate column in this dataset impacts the DeliveryStatus flag in SalesOrders. In case of a canceled order, the date in this column is set to “99991231”.

**Foreign keys in this dataset** – ProductID (ProductID from Products)

Following table displays detailed information about all the tables:

Table Name		Semantics	Modeling Information
Addresses	address data	Address data of employees and business partners	Dimension
BusinessPartners	business partner data	customers who place orders ordering bikes	Dimension
Employees	employee data	employees create and change sales orders. They belong to a specific sales organization	Dimension
ProductCategories	Product Categories (+ extra text table)	All products belong to a certain product category	Dimension
Products	products (+ extra text table)	Products are being sold by the company. Table contains product specs like price, weight, product category	Dimension
SalesOrders	sales order header	Sales orders header part containing e.g. status information, business partner, when it was created/changed etc.	Fact data
SalesOrderItems	sales order items	Sales order item information on which products have been sold, quantity and amounts	Fact data