



SAP DATASPHERE

Beginner Tutorial

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1 Foreword

This document is an update to the original SAP Datasphere Content Tutorial which will be updated if new features will be available. You can find the original SAP Tutorial here:

[datasphere-content/Sample_Bikes_Sales_content/SAP_Datasphere_Content_Tutorial.pdf](https://github.com/SAP-samples/datasphere-content/blob/main/content/Sample_Bikes_Sales_content/SAP_Datasphere_Content_Tutorial.pdf) at main · [SAP-samples/datasphere-content \(github.com\)](https://github.com/SAP-samples/datasphere-content)

2 Prerequisites

The best way for accessing the CSV files used for this demo, is to have your own GitHub account. If you are not already registered, register please. See links to GitHub and Visual Studio Code Installation. Install both of them on your local PC. Use installation documents for

GitHub: [Installing GitHub Desktop - GitHub Docs](#)

Visual Studio Code: [Visual Studio Code – Microsoft-Apps](#)

It is important that you set a GIT directory as starting point for all GIT Repositories preferable in one of your user subfolders. If Github and VS Code are installed, please open VS Code. Now press <Ctrl>-<Shift>-Ö and open a new terminal window. Alternatively you can open it as VS Code command entering <CTRL>-<SHIFT>-P and selecting “Create Terminal” from the command palette.

Clone Data from [SAP-samples/datasphere-content](https://github.com/SAP-samples/datasphere-content): [Use sample content to explorer SAP Datasphere. The downloads contain sample data as CSV files, but could also include model / metadata information. See the README files for details. \(github.com\)](#) into your Visual Studio Code. Be sure that you are under your GIT repository folder in the terminal window. then enter

```
git clone https://github.com/SAP-samples/datasphere-content
```

Check, if SAP DataSphere is connected to SAP Analytics Cloud in the settings. If not sure ask your system administrator.

Note your local folder for Sample Bike Sales content in [datasphere-content/Sample_Bikes_Sales_content](https://github.com/SAP-samples/datasphere-content/blob/main/content/Sample_Bikes_Sales_content) at main · [SAP-samples/datasphere-content \(github.com\)](https://github.com/SAP-samples/datasphere-content) \CSV. You need this folder later to upload CSV files to DSP.

In Datasphere you need sufficient privileges to create new models, please check that you have DW Modeler role assigned.

3 Business Case

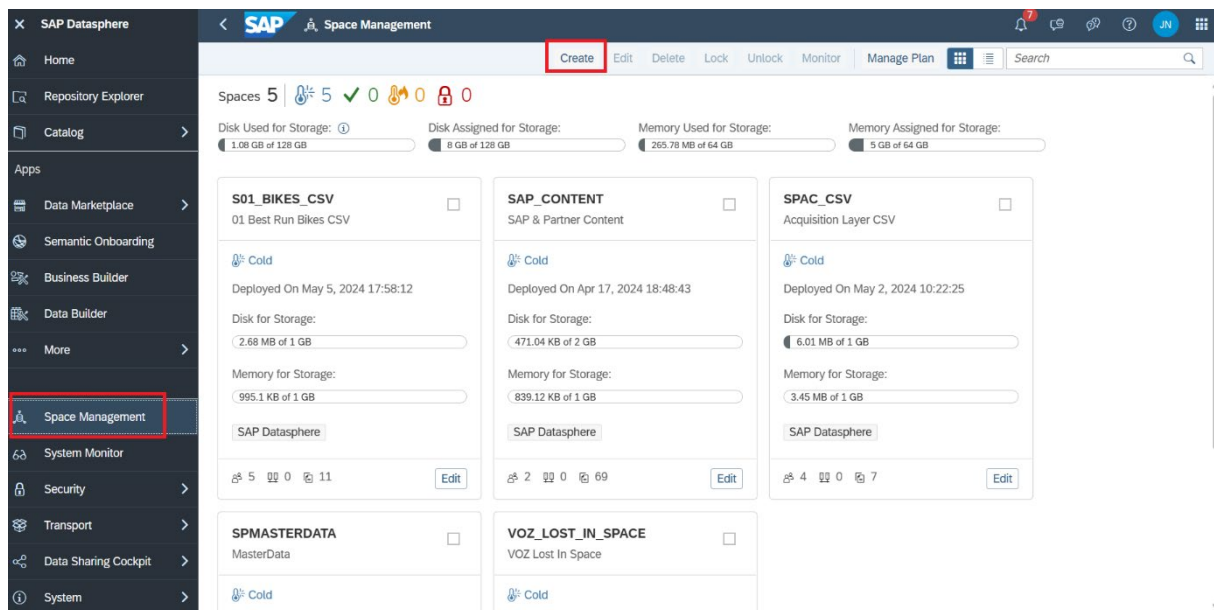
The well-known company “Best run bikes” wants to have a sales-by-region report. Due to an increase in the number of sales, the company wants to understand how the different regions, represented by Sales organization, are performing in each period of current fiscal year 2019. As measurement for performance the gross amount should be taken into consideration. A simple diagram is sufficient in this early evaluation. The solution will be developed with SAP Datasphere (DSP) and SAP Analytics Cloud (SAC).

4 Step-by-step Solution

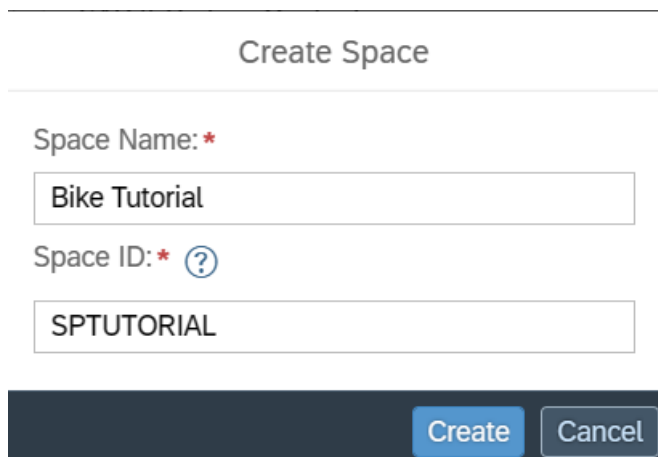
4.1 Create a Space in DataSphere

Please log on to your SAP DataSphere now. First of all you need an appropriate space in DSP where you can upload the CSV data.

Choose Space Management from the menu and then Create:



Enter name and ID in the next pop-up:



The 'Create Space' dialog shows the following fields:

- Space Name: * Bike Tutorial
- Space ID: * ? SPTUTORIAL

Buttons: Create, Cancel

We will use SPTUTORIAL for this tutorial.

In the next Screen you can enter further details for your space, but we just use it as proposed in standard.

Bike Tutorial ? Save Deploy Monitor Lock ...

Overview Workload Management Users Database Access Auditing

General Settings

Space ID: SPTUTORIAL Space Name: Bike Tutorial Space Status: Unknown Space Type: SAP Datasphere

Created By: Juergen Noe P456119 (JNOE) Created On: May 6, 2024 14:25:43 Deployment Status: Deploying Deployed On: Not Available

Space Storage:

Enable Space Quota

Disk (GB): 2.0 Memory Acceleration: 50%

Memory (GB): 1.0

Workload Management

Priority

You can specify the prioritization of this space when querying the database. Enter a value from 1 (lowest priority) to 8 (highest priority). In a situation where spaces are competing for available threads, those with higher priorities are run before spaces with lower priorities.

Space Priority: ?

1 (Low) 8 (High)

Now deploy the space.

4.2 Create Scoped Roles

In the next step you have to assign users to this space that you can work with it and create tables or views. For this purpose you need to create scoped user roles.

Press in the menu Security -> Roles. You see all available roles, scroll down the Screen to the bottom:

RLTDMODELER
TD Modellierer

👤 Users | 📁 Scopes

SR_BIKES_CSV
Import Best Run Bikes CSV Data

👤 5 Users | 📁 1 Scope

[+ Create a new scoped role](#)

Press Create a new scoped role and add it to your DataSphere environment.

Enter name and ID as shown below and press create:

Create a New Role

***Name:**

Description:

License Type:

i You are about to create a scoped role and make it available only to selected scopes. This role inherits the privileges and permissions of the role template you select in the next step.

Now you have to assign a role template. Choose DW Modeler from the list and press OK:


Select a Role Template

- DW Space Administrator
- DW Support User
- DW Modeler
- DevSquad
- DWAccessControl

The role is created and displays all privileges are assigned to this role. Now we need to assign the Space(s) to this role. In this context a space is a scope. So choose “Scopes” from the menu.

Task		Users							
TutorialRole		Scopes							
Name	Create	Read	Update	Delete	Execute	Maintain	Share	Manage	
<input type="checkbox"/>	Analytic Model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	Other Datasources				<input type="checkbox"/>				
<input type="checkbox"/>	Translation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	Role	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	User	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<input type="checkbox"/>	Team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
<input type="checkbox"/>	Activity Log		<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	Lifecycle		<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>	Public Files	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	Private Files	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	Deleted Files							<input type="checkbox"/>	
<input type="checkbox"/>	Ownership of Content				<input type="checkbox"/>				
<input type="checkbox"/>	System Information		<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	Catalog Asset	<input type="checkbox"/> SAP Dat...	<input type="checkbox"/> SAP Dat...	<input type="checkbox"/> SAP Dat...	<input type="checkbox"/> SAP Dat...			<input type="checkbox"/> SAP Data...	
<input type="checkbox"/>	Catalog Glossary	<input type="checkbox"/> SAP Dat...	<input type="checkbox"/> SAP Dat...	<input type="checkbox"/> SAP Dat...	<input type="checkbox"/> SAP Dat...				

A warning pop-up appears that the role has not yet been saved. Please Save the role and continue:

 **Warning**

The changes made to this role have to be saved before you can add scopes and users to the role.
Would you like to save this role?

[Save](#) [Cancel](#)

Choose “Scope” again. In the next Pop-up window choose “Bike Tutorial” Space as scope and press “Save”:

Scopes

Available Scopes

- SAP & Partner Content
- MasterData
- Acquisition Layer CSV
- 01 Best Run Bikes CSV
- Bike Tutorial

Selected Scopes

- Bike Tutorial

[Save](#) [Cancel](#)

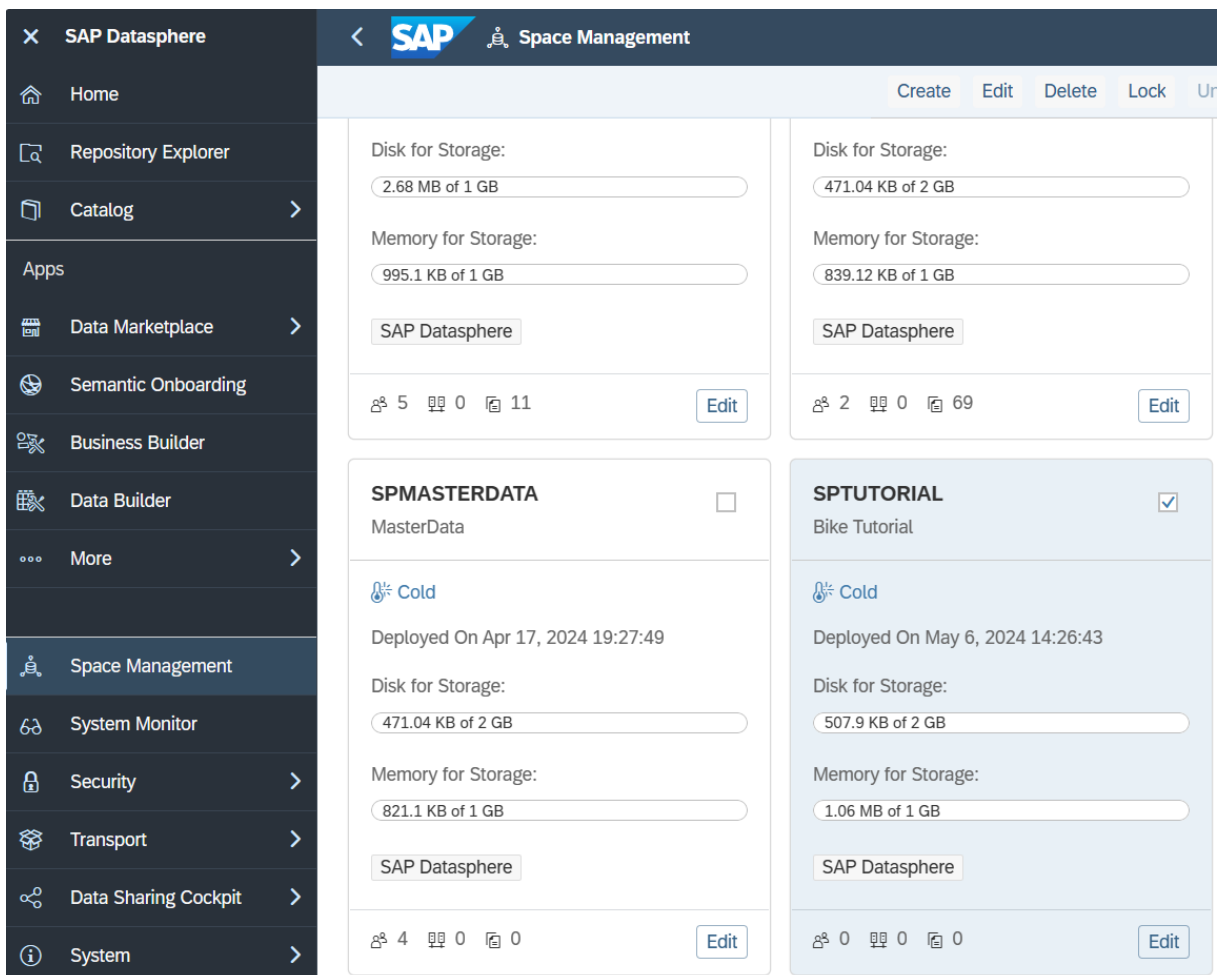
Display of role has changed:

Task		Users							
TutorialRole		1 Scope <input type="text" value="Search"/>							
<input type="checkbox"/>	Name	<input type="checkbox"/> Create	<input type="checkbox"/> Read	<input type="checkbox"/> Update	<input type="checkbox"/> Delete	<input type="checkbox"/> Execute	<input type="checkbox"/> Maintain	<input type="checkbox"/> Share	<input type="checkbox"/> Manage
<input type="checkbox"/>	Analytic Model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		
<input type="checkbox"/>	Other Datasources					<input type="checkbox"/>			
<input type="checkbox"/>	Translation	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>				
<input type="checkbox"/>	Role	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

4.3 Assign Users

Now we can assign users to this scoped role. Press “Users” and assign all users you want to grant this role.

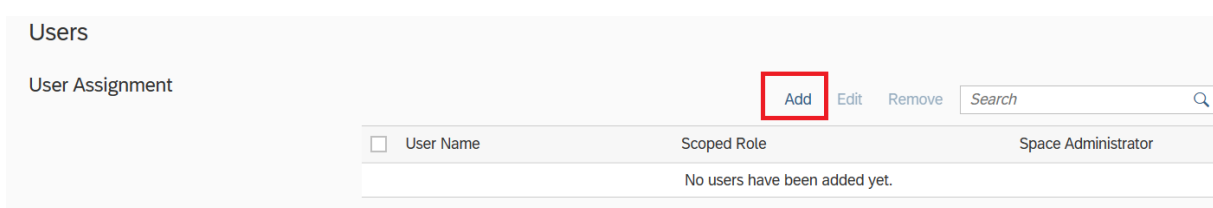
But you can also switch back to Tutorial Space. Choose Space Management and select Tutorial space and press “Edit”:



The screenshot shows the SAP Space Management interface. On the left is a navigation menu with options like Home, Repository Explorer, Catalog, Apps, Data Marketplace, Semantic Onboarding, Business Builder, Data Builder, More, Space Management (selected), System Monitor, Security, Transport, Data Sharing Cockpit, and System. The main area displays several space configurations:

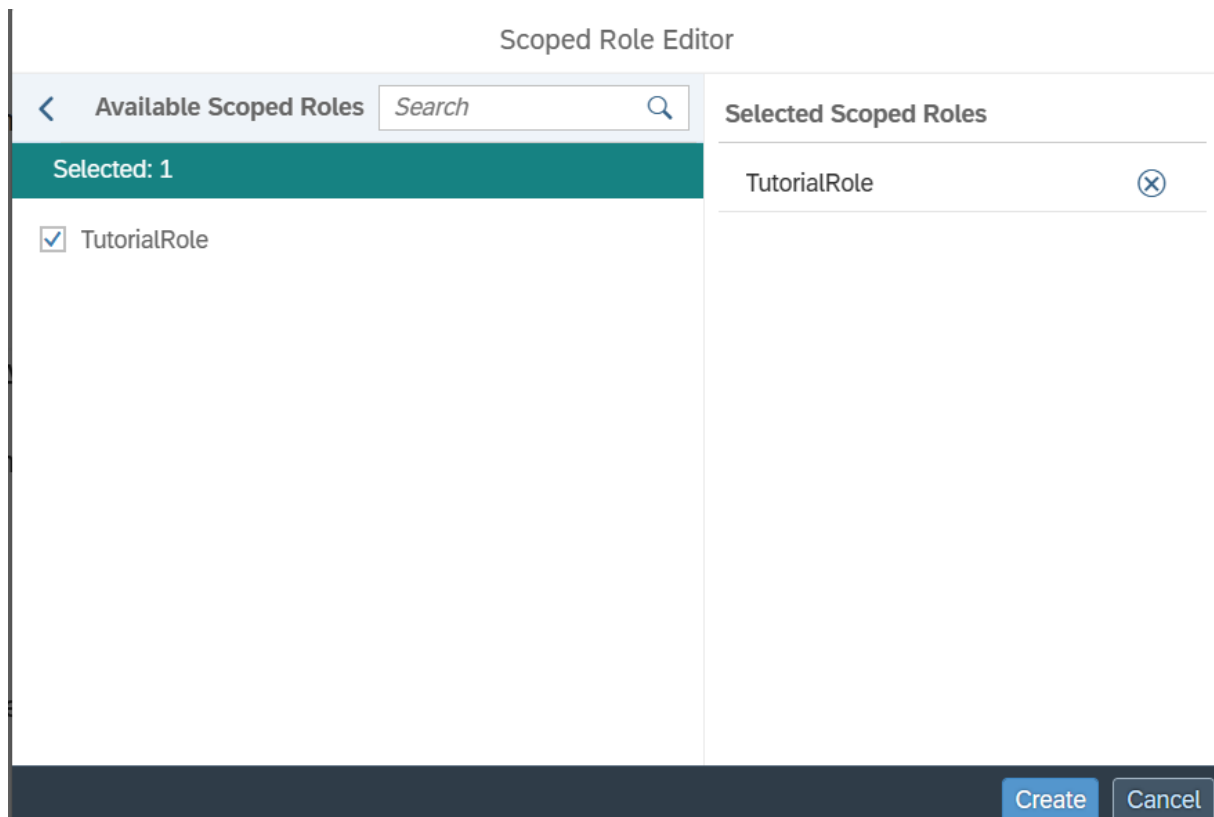
- SPMASTERDATA** (MasterData): 2.68 MB of 1 GB Disk for Storage, 995.1 KB of 1 GB Memory for Storage. Deployed On Apr 17, 2024 19:27:49. Status: Cold. 5 users, 0 groups, 11 roles.
- SPTUTORIAL** (Bike Tutorial): 471.04 KB of 2 GB Disk for Storage, 839.12 KB of 1 GB Memory for Storage. Deployed On May 6, 2024 14:26:43. Status: Cold. 2 users, 0 groups, 69 roles.
- SPMASTERDATA** (MasterData): 471.04 KB of 2 GB Disk for Storage, 821.1 KB of 1 GB Memory for Storage. Deployed On Apr 17, 2024 19:27:49. Status: Cold. 4 users, 0 groups, 0 roles.
- SPTUTORIAL** (Bike Tutorial): 507.9 KB of 2 GB Disk for Storage, 1.06 MB of 1 GB Memory for Storage. Deployed On May 6, 2024 14:26:43. Status: Cold. 0 users, 0 groups, 0 roles.

Here you can assign users to the space.



The screenshot shows the 'Users' section of the SAP interface, specifically the 'User Assignment' area. It features a search bar with an 'Add' button highlighted in a red box, followed by 'Edit' and 'Remove' buttons. Below the search bar is a table with columns for 'User Name', 'Scoped Role', and 'Space Administrator'. The table is currently empty, and a message at the bottom states 'No users have been added yet.'

Click “Add” and assign all users in the next pop-up to the space you want. Press “Next”. Now you should assign our Tutorial role in the next pop-up. Select “Tutorial Role” and press “Create”:

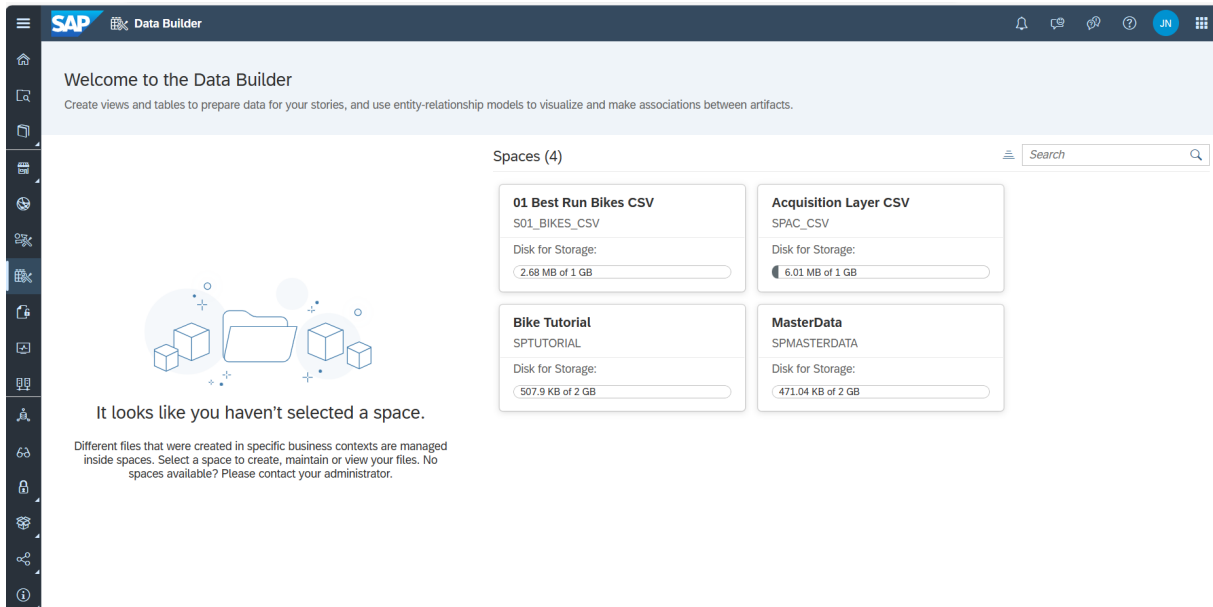


As a result you should see a list with all users assigned to this space. “Deploy” space again.

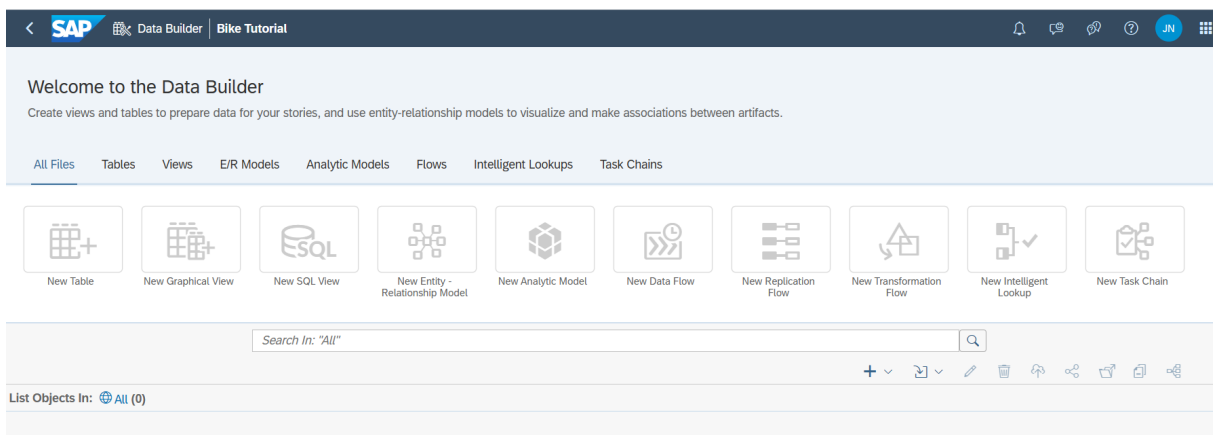
5 Prepare model and data

Space is created, users with scoped roles have been assigned. Now we can go create our data model and import data from CSV files into our Tutorial Space. Go to “Data Builder” in the menu.

5.1 Data Builder



You should be able to see Bike Tutorial Space. If it is not available wait a few seconds, as deployment may not yet completed. If Bike Tutorial is available, just click on it and you get into the data builder GUI.

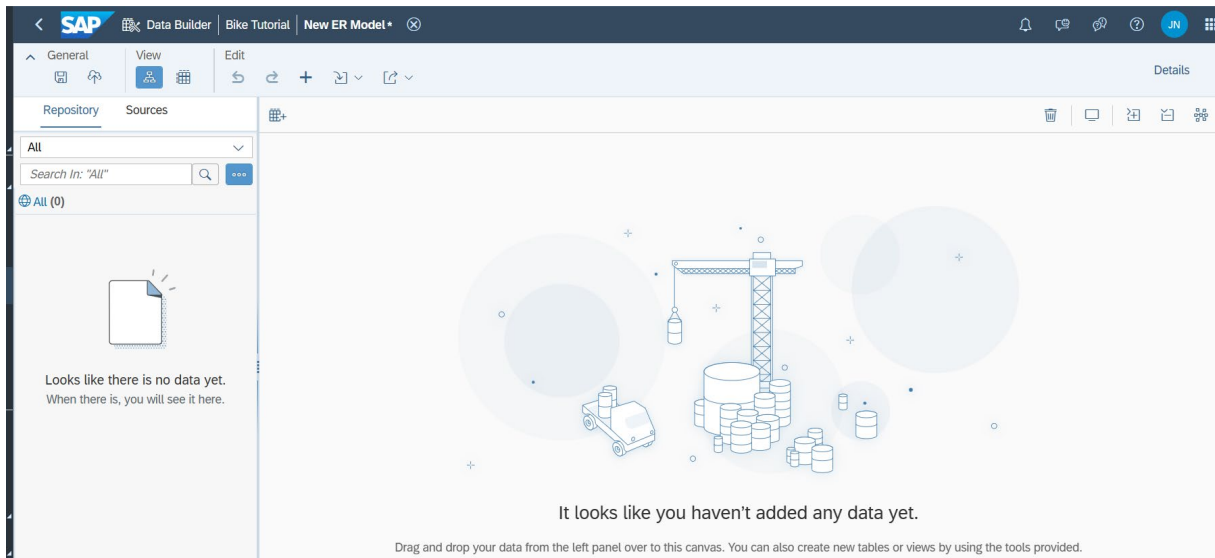


Here you see a list of all objects you can create and use to store data and execute tasks.

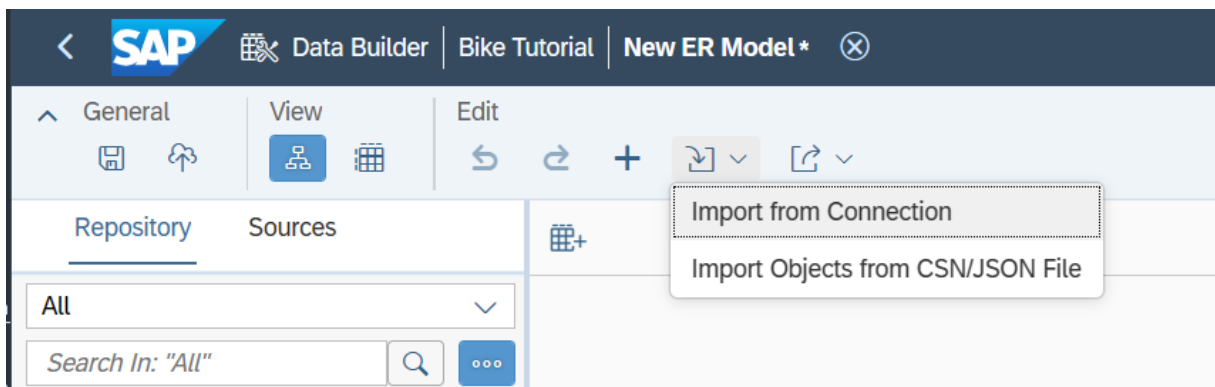
We will start with the Entity-Relationship-Model (ERM). That is the preferred starting point for a new project. You can define the ERM from a JSON-File. In the ERM you define all tables / views and their dependencies. The content tutorial provides a JSON-ERM file.

5.2 Create ERM

Press Button “New Entity Relationship Model”. You get into the screen for creating a entity-relationship model:



You can directly create a entity-relationship model from JSON file just by uploading it:



Choose “Import objects from CSN/JSON File”. In the next pop-up choose JSON-File from your sales content folder and press “Next”:

Name	Änderungsdatum
CSV	05.05.2024 17:02
HANA	05.05.2024 16:12
Bike Sales Model.json	05.05.2024 16:12

Import CSN File

File:




Select all Objects to import and press “Import CSN File”:

Select Objects to Import				
Search				
Selected: 9				
<input checked="" type="checkbox"/>	Business Name	Technical Name	Type (Semantic Usage)	Status
<input checked="" type="checkbox"/>	Addresses	Addresses	Local Table	Ready to Import
<input checked="" type="checkbox"/>	BusinessPartners	BusinessPartners	Local Table	Ready to Import
<input checked="" type="checkbox"/>	Employees	Employees	Local Table	Ready to Import
<input checked="" type="checkbox"/>	ProductCategories	ProductCategories	Local Table	Ready to Import
<input checked="" type="checkbox"/>	ProductCategoryText	ProductCategoryText	Local Table	Ready to Import
<input checked="" type="checkbox"/>	Products	Products	Local Table	Ready to Import
<input checked="" type="checkbox"/>	ProductTexts	ProductTexts	Local Table	Ready to Import
<input checked="" type="checkbox"/>	SalesOrderItems	SalesOrderItems	Local Table	Ready to Import
<input checked="" type="checkbox"/>	SalesOrders	SalesOrders	Local Table	Ready to Import


You will get a message that import was successful. The ERM should look like this:







You find yellow numbers about the tables, telling you something is not ok. If you press on a number you will get a more detailed information:

-  The association "_SalesOrderItems" is defined on the attributes ... >
-  The association "_BusinessPartners" is defined on the attributes... >
-  The association "_Employees" is defined on the attributes "CRE... >

This warning actually prevents you to deploy the ERM and is rather an error. It tells you in some columns are missing text/associations but text/association is setup for the model. Choose table "SalesOrders" and expand it to Full screen you should see the details:

Local Table Properties 


 SalesOrders   


Business Name:

Technical Name:

Semantic Usage:

Delta Capture:
 OFF

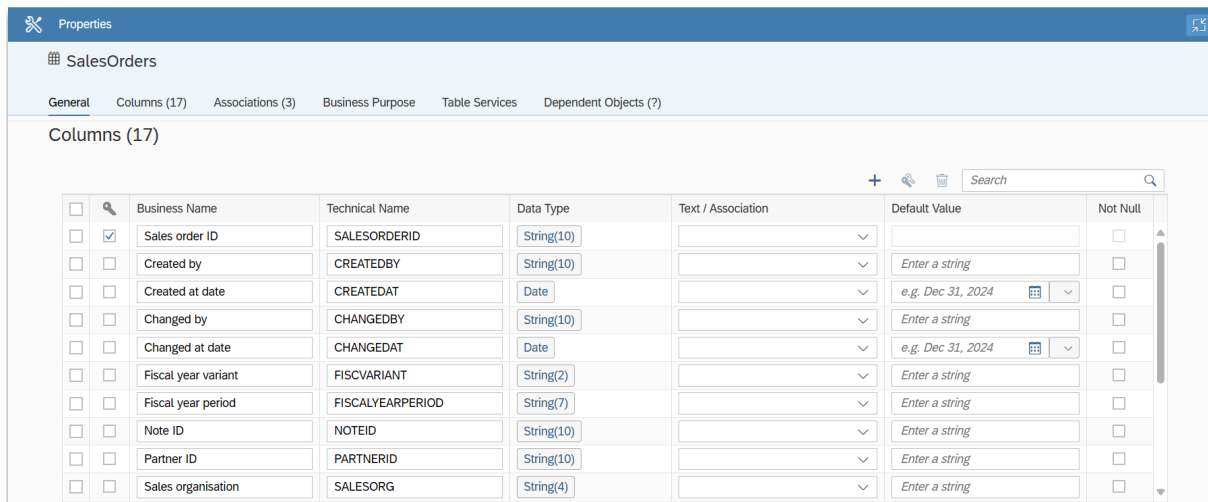
Status:
 Not Deployed



You find 3 associations defined:

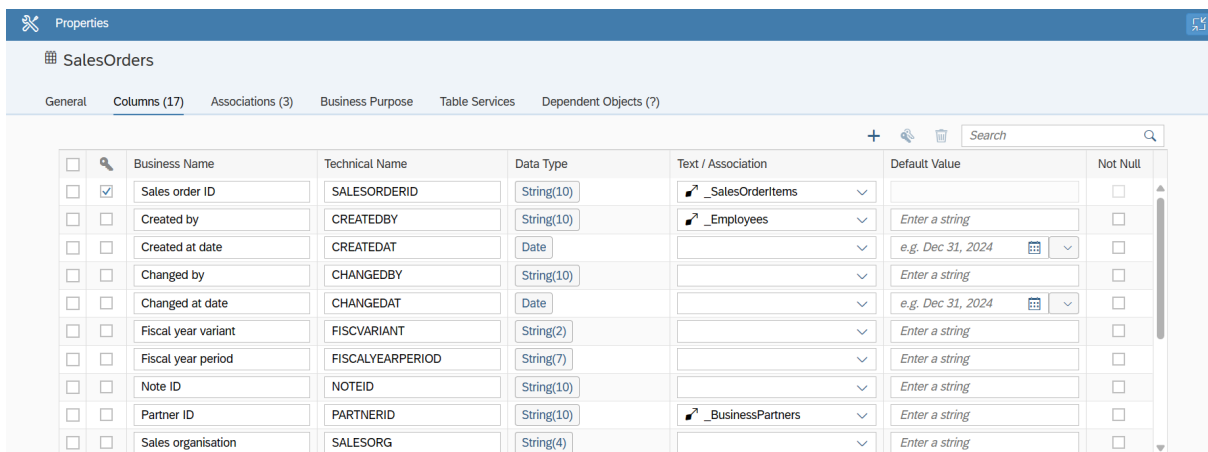
- Associations (3)   
-  _SalesOrderItems
-  _BusinessPartners
-  _Employees

Press “Enter Full Screen” for Full screen display of the table with all columns and their settings:



<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sales order ID	SALESORDERID	String(10)			<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Created by	CREATEDBY	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Created at date	CREATEDAT	Date		e.g. Dec 31, 2024	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Changed by	CHANGEDBY	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Changed at date	CHANGEDAT	Date		e.g. Dec 31, 2024	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fiscal year variant	FISCVARIANT	String(2)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fiscal year period	FISCALYEARPERIOD	String(7)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Note ID	NOTEID	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Partner ID	PARTNERID	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Sales organisation	SALESORG	String(4)		Enter a string	<input type="checkbox"/>

As you can see for no column a text / association is defined for the any of the three defined associations. Please enter following associations:



<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sales order ID	SALESORDERID	String(10)	↗ _SalesOrderItems		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Created by	CREATEDBY	String(10)	↗ _Employees	Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Created at date	CREATEDAT	Date		e.g. Dec 31, 2024	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Changed by	CHANGEDBY	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Changed at date	CHANGEDAT	Date		e.g. Dec 31, 2024	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fiscal year variant	FISCVARIANT	String(2)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fiscal year period	FISCALYEARPERIOD	String(7)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Note ID	NOTEID	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Partner ID	PARTNERID	String(10)	↗ _BusinessPartners	Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Sales organisation	SALESORG	String(4)		Enter a string	<input type="checkbox"/>

Save the model. Saving every few minutes is recommended to prevent time out. Ignore the warnings of missing associations and save in spite of warnings, press “Save”:

Save

Bike Tutorial /

Business Name	Technical Name	Type	Status	Changed By
No data				

Business Name: *

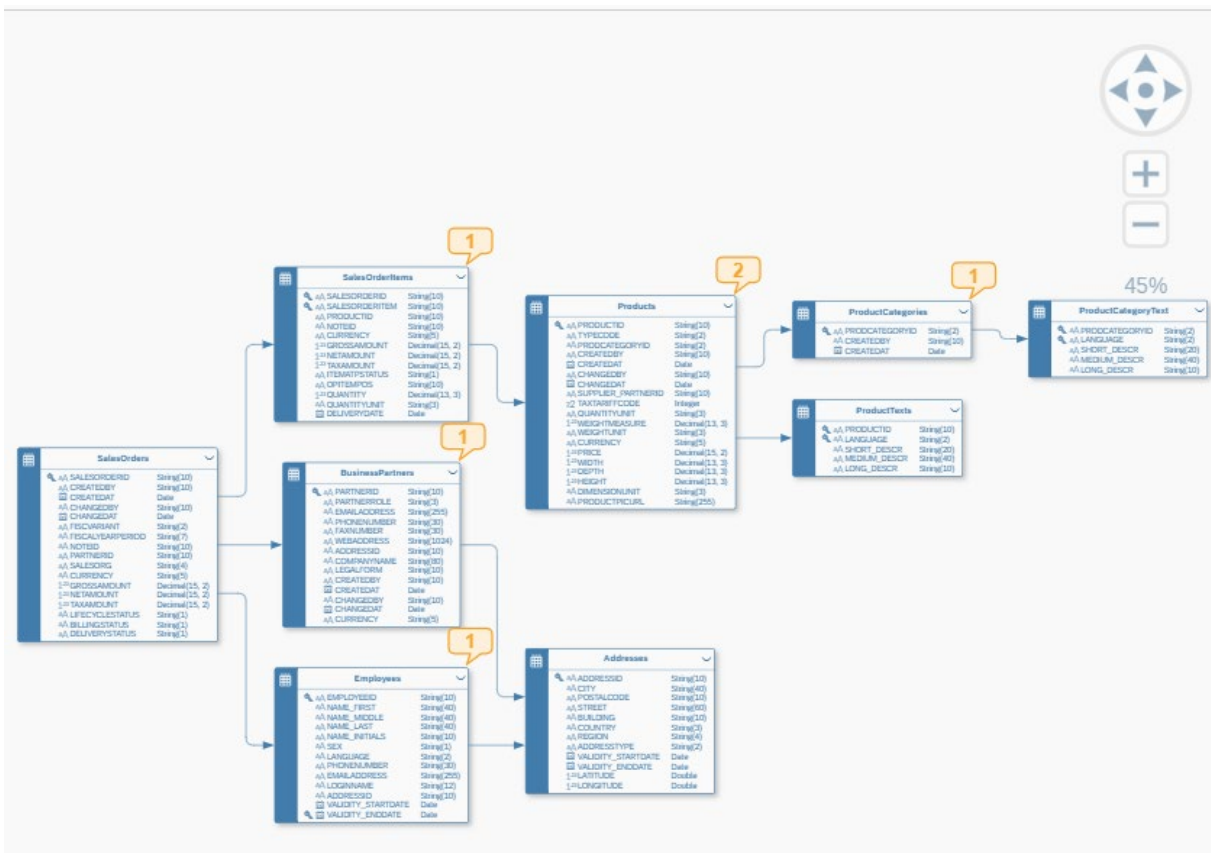
Bike Tutorial ERM

Technical Name: *

ERM BIKE Tutorial

Save Cancel

As a result the warning has disappeared in the ERM on this table:



Maintain the associatinos accordingly for all other tables:

SalesOrderItems

General Columns (13) Associations (1) Business Purpose Table Services Dependent Objects (?)

Not Deployed

Columns (13)

<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sales order ID	SALESORDERID	String(10)			<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sales order item	SALESORDERITEM	String(10)			<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Product ID	PRODUCTID	String(10)	_Products	Enter a string	<input type="checkbox"/>

BusinessPartners

General Columns (14) Associations (1) Business Purpose Table Services Dependent Objects (?)

Columns (14)

<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Partner ID	PARTNERID	String(10)			<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Partner role	PARTNERROLE	String(3)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Email address	EMAILADDRESS	String(255)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Phone number	PHONENUMBER	String(30)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fax number	FAXNUMBER	String(30)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Web address	WEBADDRESS	String(1024)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Address ID	ADDRESSID	String(10)	_Addresses	Enter a string	<input type="checkbox"/>

Employees

General Columns (13) Associations (1) Business Purpose Table Services Dependent Objects (?)

Columns (13)

<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input type="checkbox"/>	Last name	NAME_LAST	String(40)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Name initials	NAME_INITIALS	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Sex	SEX	String(1)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Language	LANGUAGE	String(2)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Phone number	PHONENUMBER	String(30)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Email address	EMAILADDRESS	String(255)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Login name	LOGINNAME	String(12)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Address ID	ADDRESSID	String(10)	_Addresses	Enter a string	<input type="checkbox"/>

Don't forget to save 😊

ProductCategories

General Columns (19) Associations (2) Business Purpose Table Services Dependent Objects (?)

Columns (19)

<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Product ID	PRODUCTID	String(10)	_ProductTexts		<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Type code	TYPECODE	String(2)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Product category ID	PRODCATEGORYID	String(2)	_ProductCategories	Enter a string	<input type="checkbox"/>

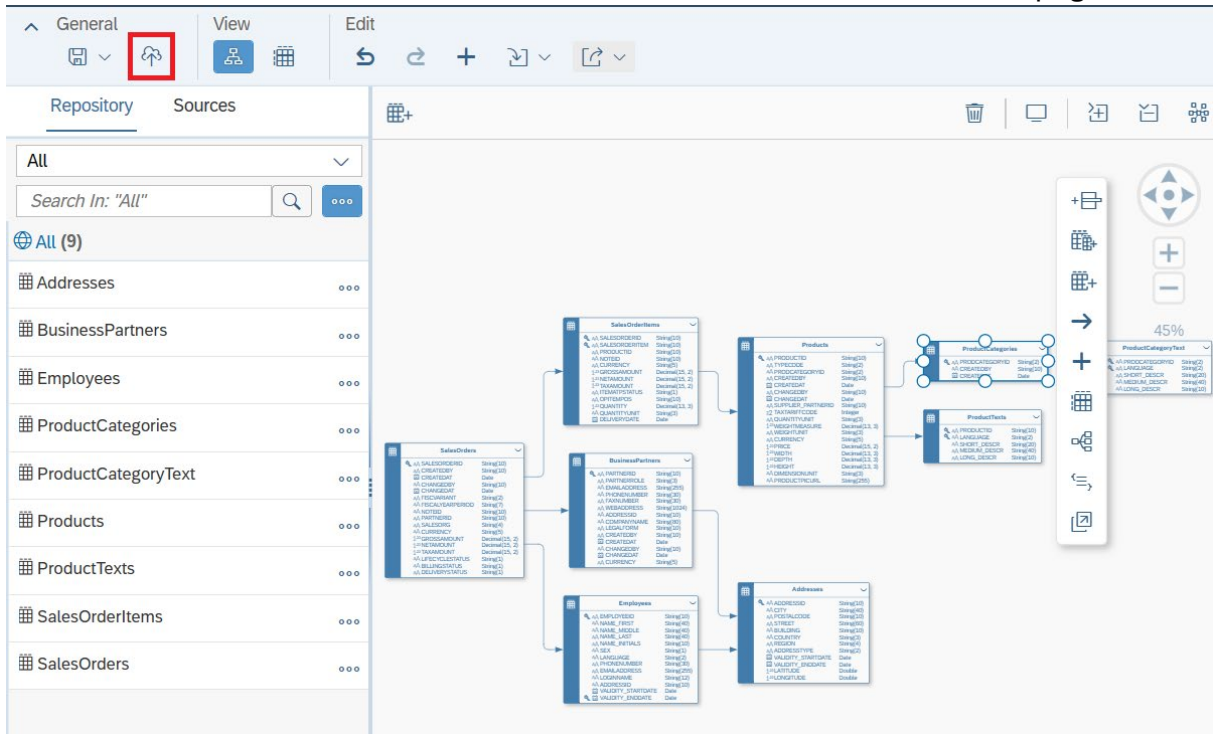
ProductCategories

General Columns (3) Associations (1) Business Purpose Table Services Dependent Objects (?)

Columns (3)

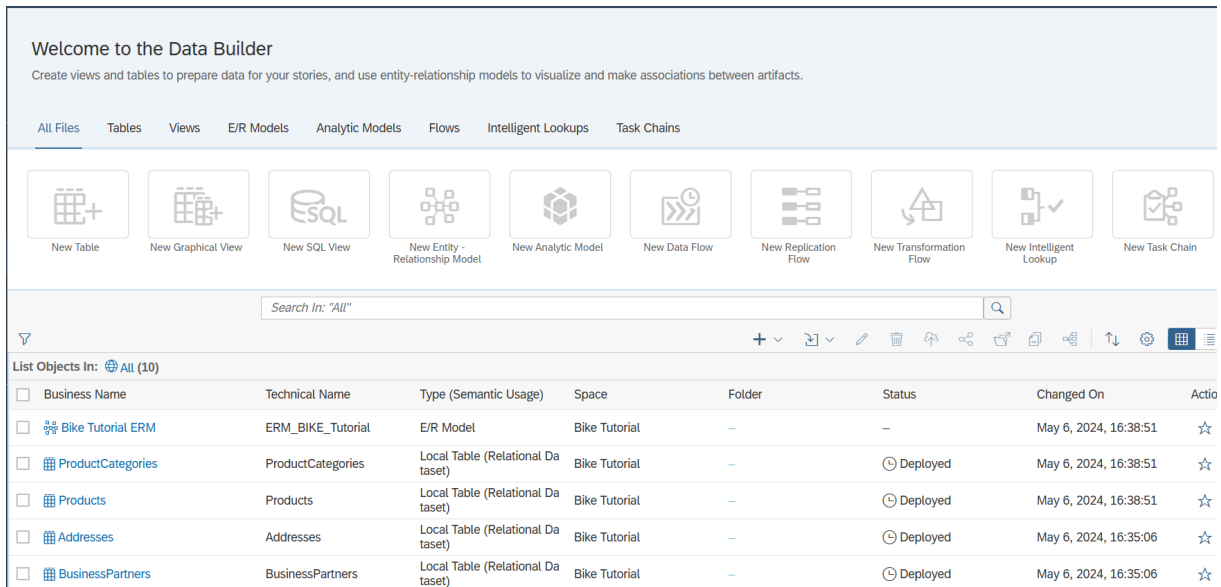
<input type="checkbox"/>	<input type="checkbox"/>	Business Name	Technical Name	Data Type	Text / Association	Default Value	Not Null
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Product category ID	PRODCATEGORYID	String(2)	_ProductCategoryText		<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Created by	CREATEDBY	String(10)		Enter a string	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Created at date	CREATEDAT	Date		e.g. Dec 31, 2024	<input type="checkbox"/>

Now you are ready to deploy your ERM. During deployment all tables will be generated.

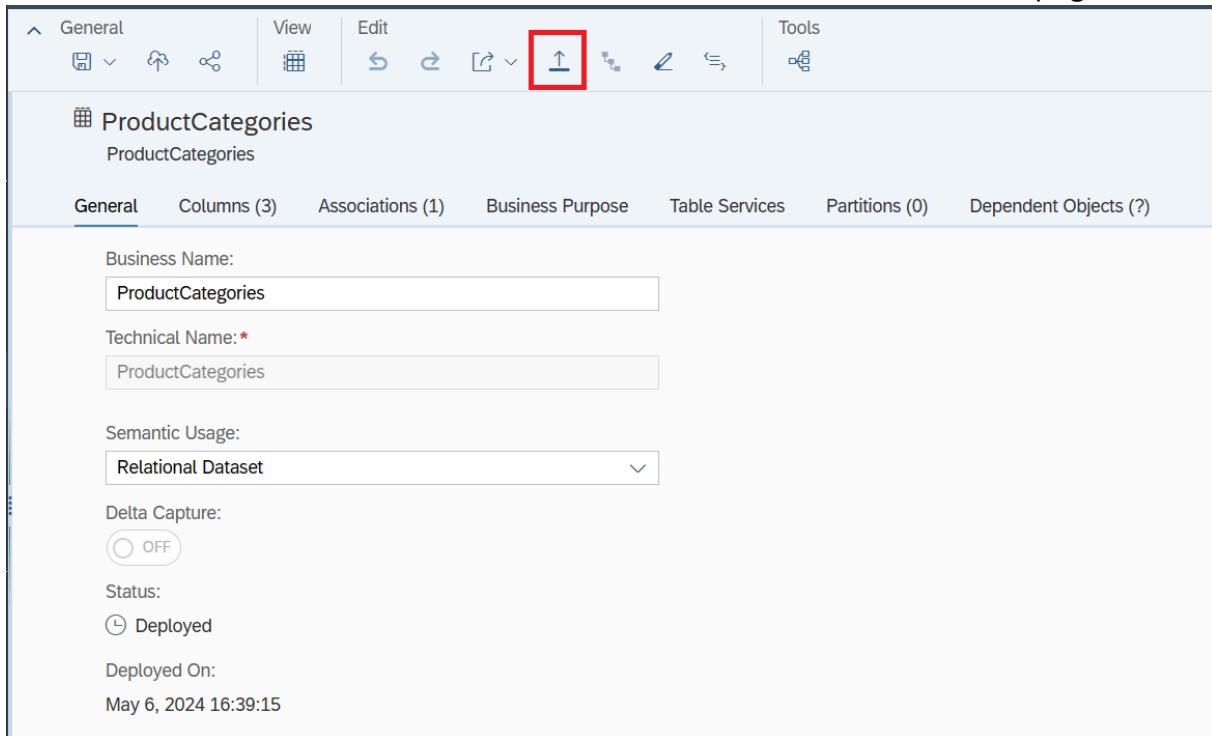


5.3 Load data into tables

Go back to data builder and chose “Bike Tutorial” Space. Now you can find the created tables from your ERM and the ERM itself in the list of objects:



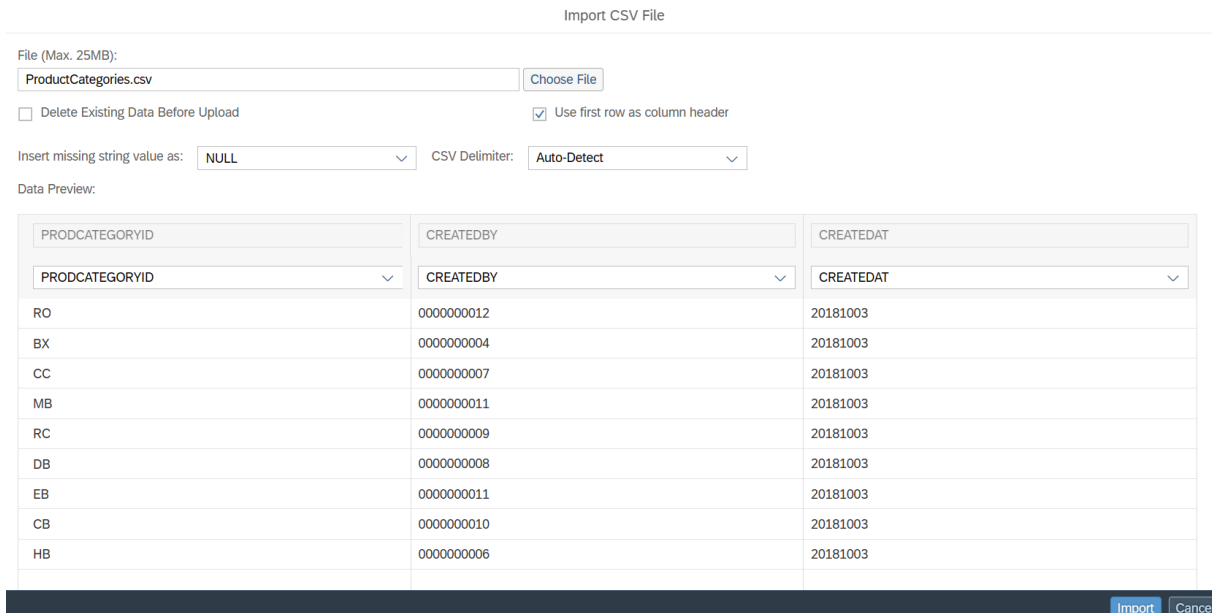
Click on the Link in Business name for ProductCategories. You will get to detailed table information in a new screen:



The screenshot shows the SAP GUI configuration for the 'ProductCategories' table. The 'Edit' toolbar at the top has an 'Up' arrow icon highlighted with a red box. Below the toolbar, the table configuration is displayed under the 'General' tab. The configuration includes:

- Business Name:** ProductCategories
- Technical Name:** * ProductCategories
- Semantic Usage:** Relational Dataset
- Delta Capture:** OFF
- Status:** Deployed
- Deployed On:** May 6, 2024 16:39:15

With the Up-Arrow Button you can upload data from CSV to your table. Press up-arrow button. In the following pop-up choose “ProductCategories.csv” from your GIT sales content folder:

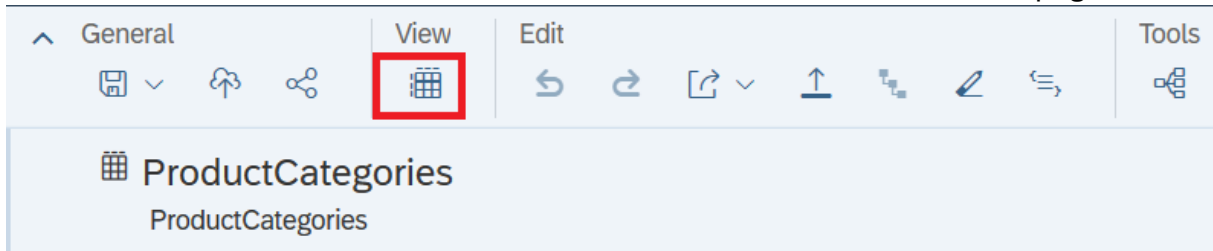


The screenshot shows the 'Import CSV File' dialog box. The file 'ProductCategories.csv' is selected. The 'Use first row as column header' checkbox is checked. The data preview table is as follows:

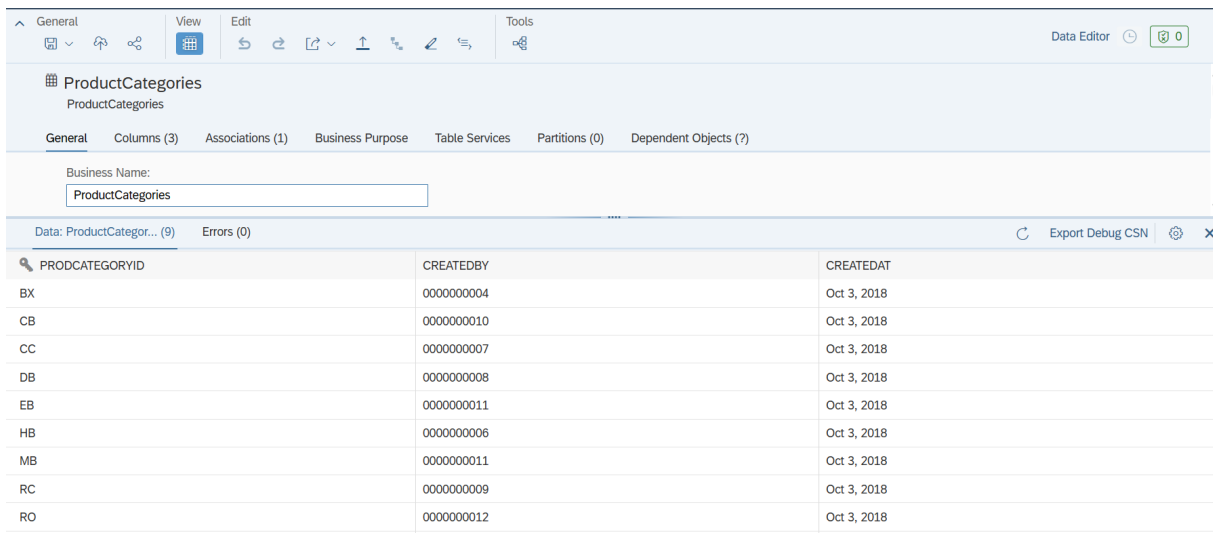
PRODCATEGORYID	CREATEDBY	CREATEDAT
RO	0000000012	20181003
BX	0000000004	20181003
CC	0000000007	20181003
MB	0000000011	20181003
RC	0000000009	20181003
DB	0000000008	20181003
EB	0000000011	20181003
CB	0000000010	20181003
HB	0000000006	20181003

You will a data preview. If it is ok, you can press “Import”. Next you will see a progress window for your upload and get a notification if upload has finished.

With View you can view the data:



The view will be prepared and you can see the result:



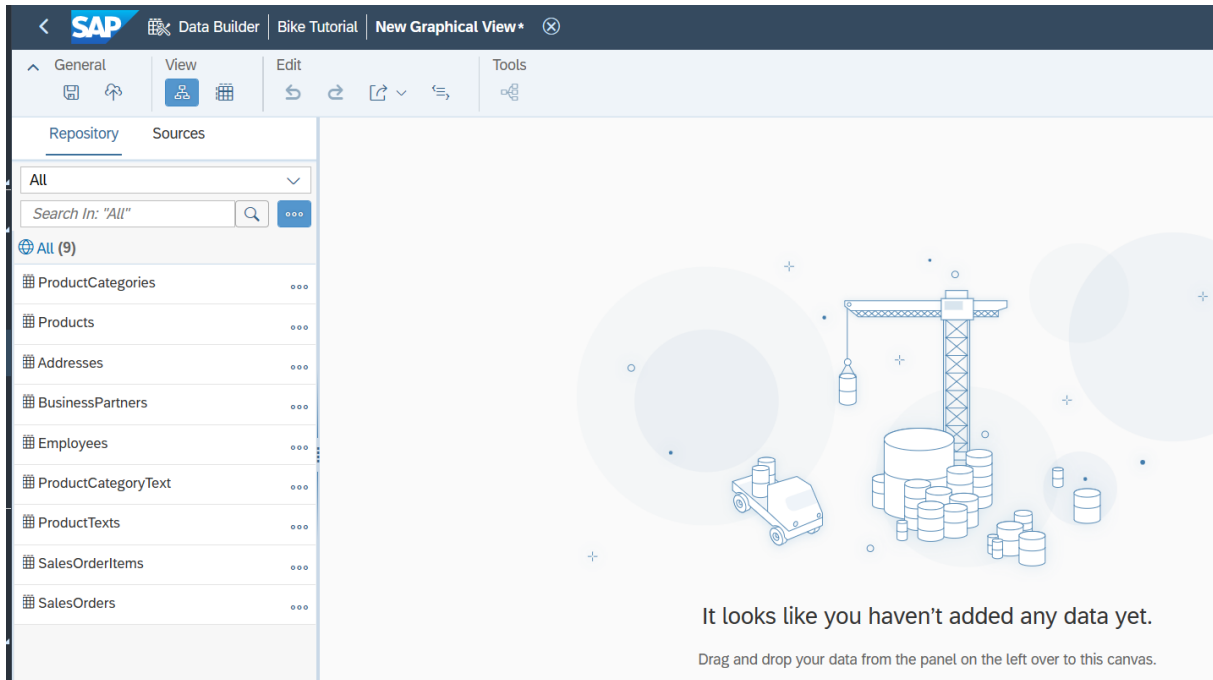
PRODCATEGORYID	CREATEDBY	CREATEDAT
BX	0000000004	Oct 3, 2018
CB	0000000010	Oct 3, 2018
CC	0000000007	Oct 3, 2018
DB	0000000008	Oct 3, 2018
EB	0000000011	Oct 3, 2018
HB	0000000006	Oct 3, 2018
MB	0000000011	Oct 3, 2018
RC	0000000009	Oct 3, 2018
RO	0000000012	Oct 3, 2018

Please upload all other CSV files from the ERM model in the same way. Now you're ready and have set up your data.

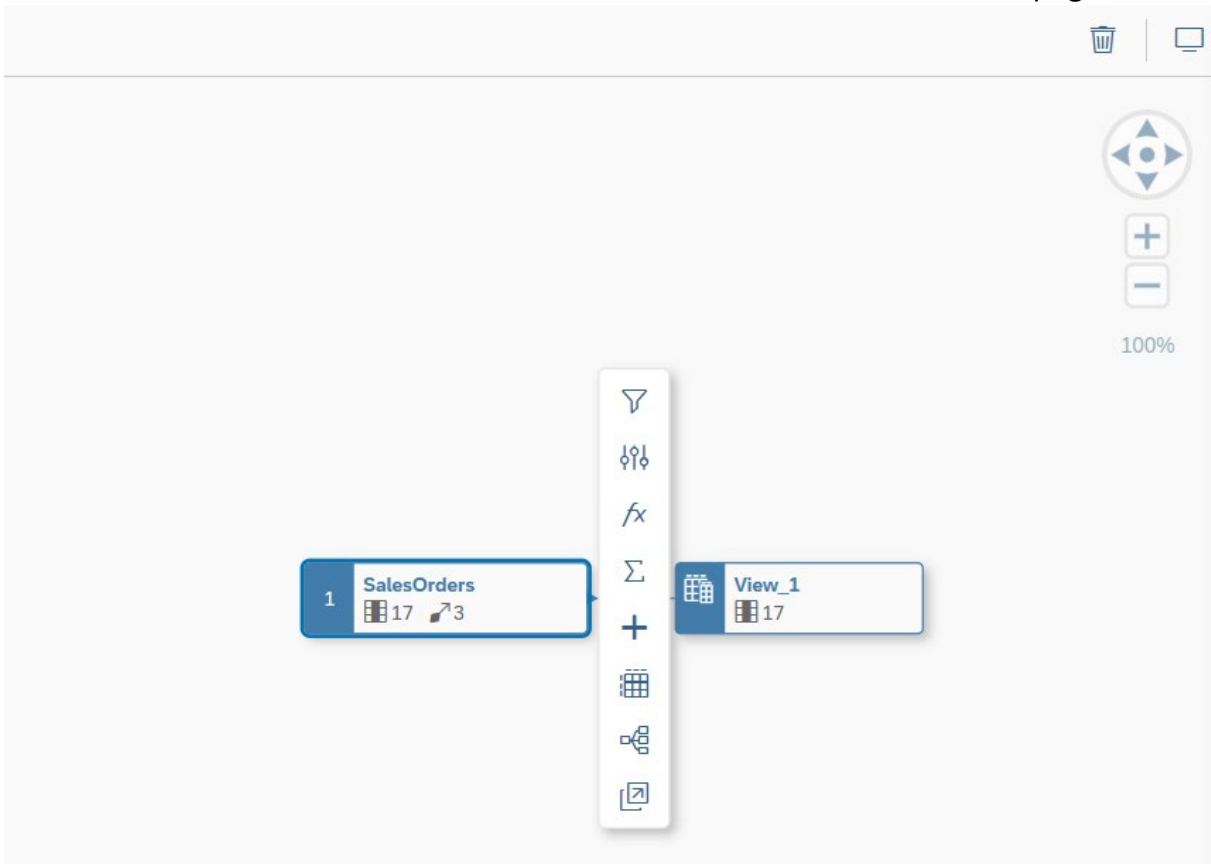
6 Build the analytics

6.1 Create graphical view

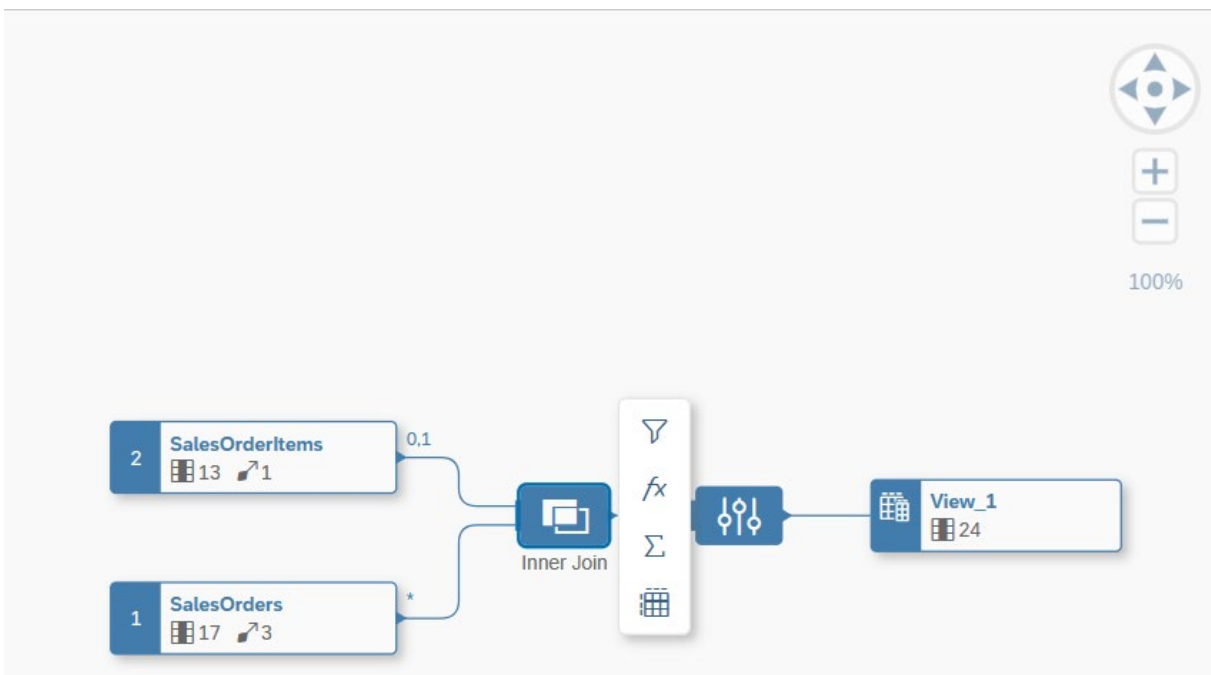
Let's start with the basics and create a graphical view. Go to Data Builder as shown beforehand and create a new Graphical View.



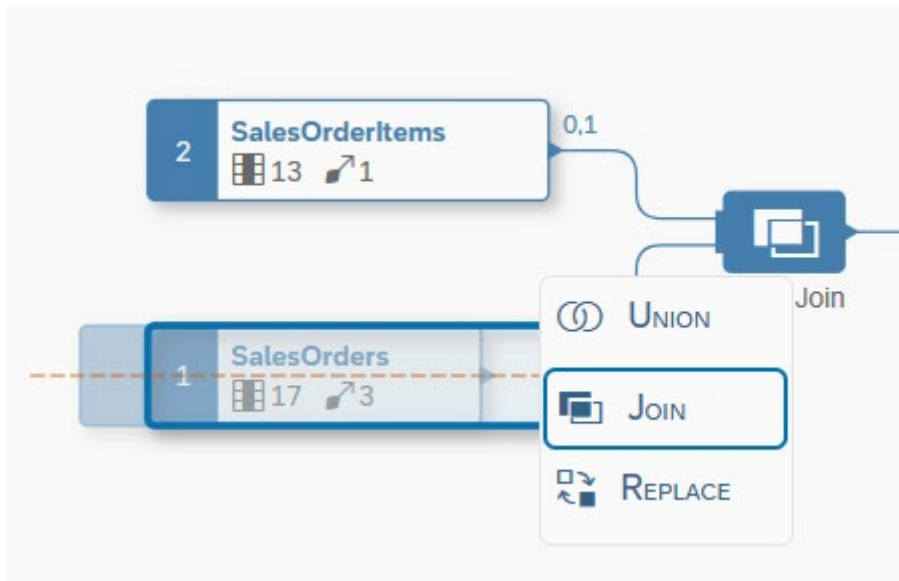
Now drag and drop table SalesOrder to the canvas from left to right. The result should look like this:



If you start dragging a table from left to right there will be created an object “View_1” which is the output of your graphical View. Now drag table SalesOrderItems and drop it on SalesOrders. It is important that it will really be dropped on the table SalesOrder. The result should be like this. Datasphere creates a join automatically:



If you move “SalesOrderItems” about “SalesOrders” then you see available options, how to join them:



Standard is Join if you just drop it. IF you want a “Union” you choose it here. The third option is to replace the old table by the new one.

You can inspect the join in the properties window:

✕

Join Properties

Join 1
🛡️
30

Name*

Join Type

Inner

 Distinct Values

Cardinality

📊 SalesOrders (17)

Many (*)

📊 SalesOrderItems (13)

One (0,1)

To

Every row in SalesOrders joins to Zero rows or one row in SalesOrderItems

Every row in SalesOrderItems joins to Zero or multiple rows in SalesOrders

▼ **Mappings**

All

Mapped

Unmapped


📊 SalesOrders (17)

AA SALESOR DERID

↔

📊 SalesOrderItems (13)

AA SALESOR DERID



For the join following join types are available:

Join Type

Inner
▼

Cross

Full

Inner

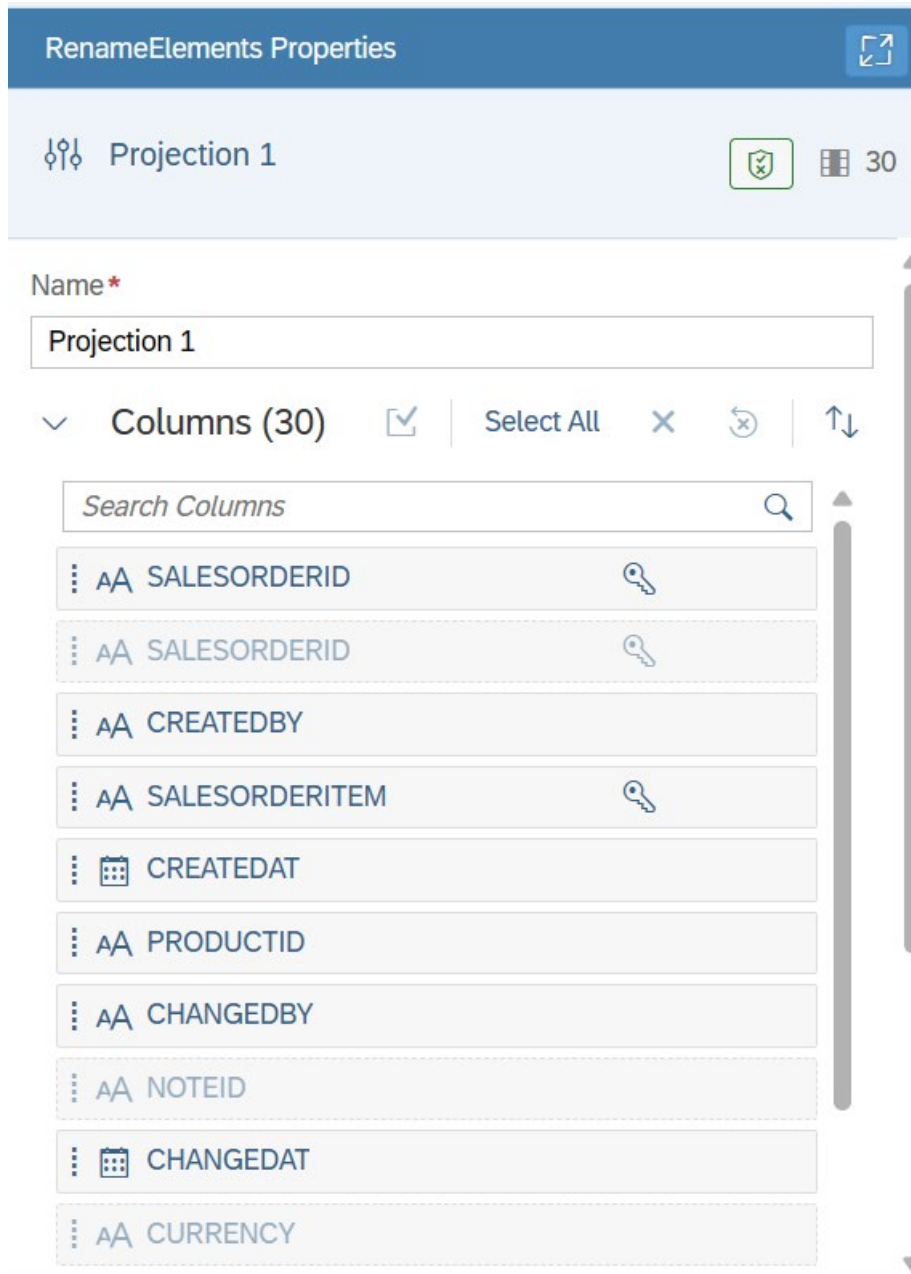
Left

Right

Inner is chosen by default.

If you don't want the action, just press "ESC" and no additional join will be created.

You can define the output columns in the Projection properties:



RenameElements Properties

Projection 1

Name*

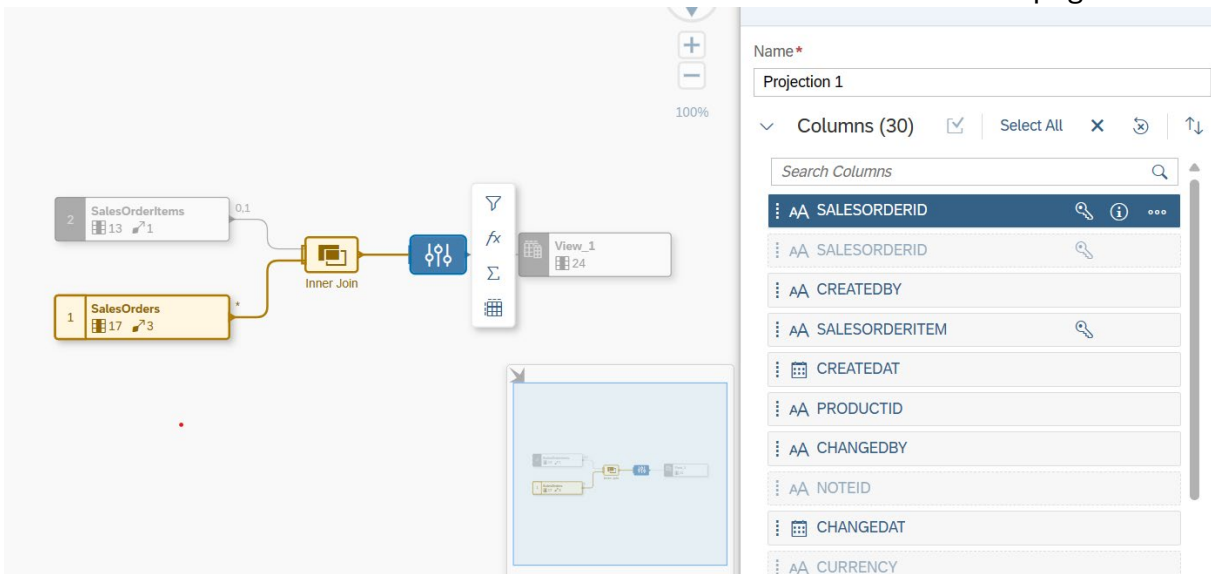
Projection 1

Columns (30) Select All

Search Columns

AA SALESORDERID	Key
AA SALESORDERID	Key
AA CREATEDBY	
AA SALESORDERITEM	Key
CREATEDAT	
AA PRODUCTID	
AA CHANGEDBY	
AA NOTEID	
CHANGEDAT	
AA CURRENCY	

If you select one column you will see on the canvas from which base table it is:



As you can see, column “SalesOrderID” is taken from SalesOrders. Duplicate Columns are disabled. You can recognize them as they are greyed-out. You can rename and restore columns, if you want to see for example gross amount on header and item level. Let’s rename gross amount from sales order items and restore it:

Change Name

Business Name:

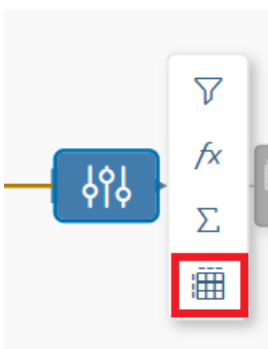
Technical Name:

To make it visible, you have to restore the renamed column:

Now you have added gross amount on item level to your output:

The screenshot shows a software interface titled "RenameElements Properties". At the top, there is a blue header bar with the title and a refresh icon. Below the header, the text "Projection 1" is displayed next to a filter icon. To the right, there is a shield icon and a grid icon followed by the number "30". The main area contains a list of fields, each with a vertical ellipsis icon on the left and a small icon on the right. The fields are: "AA CREATEDBY", "AA SALESORDERITEM" (with a key icon), "CREATEDAT" (with a calendar icon), "AA PRODUCTID", "AA CHANGEDBY", "AA NOTEID" (dashed border), "CHANGEDAT" (with a calendar icon), "AA CURRENCY" (dashed border), "AA FISCVARIANT", "1.23 GROSSAMOUNT_ITMS", "AA FISCALYEARPERIOD", "1.23 NETAMOUNT" (dashed border), and "AA NOTEID".

You can take a preview on each stage of the graphical view:







Just press the data viewer button.

Data: Projection 1 (1930)		Errors (0)		Export Debug CSN	Settings	Close
*1-SALESORDERID	1-CREATEDBY	*2-SALESORDERITEM	1-CREATEDAT	2-F		
0500000000	0000000004	0000000010	Jan 11, 2018	ME		
0500000000	0000000004	0000000020	Jan 11, 2018	CB		
0500000001	0000000002	0000000010	Jan 12, 2018	HB		

6.2 Create Fact

For later use in SAC we have to make sure we have the right output model. So switch output to Fact first:

View Properties
↗

 GVSalesOrderDetail
   25

Business Name:

Technical Name:

Semantic Usage:

Fact
▼


Expose for Consumption [Create Analytic Model](#)

OFF ?

Run in Analytical Mode:

OFF

Status:

 Not Deployed

If you choose “Fact” as Semantic Usage” you have the option to create an Analytic Model which is the preferred object to be exposed to SAC from DataSphere. For use as Analytic Model we have to make sure that measurements and dimensions are set up correctly. Highlight all potential measurements in the attributes list. First order all potential measurements in the list under beneath:

The screenshot shows the 'Model Properties' window for the 'GVSalesOrderDetail' model. The window title is 'Model Properties' and it has a refresh icon. Below the title bar, the model name 'GVSalesOrderDetail' is displayed along with a clock icon, a shield icon, and a '25' indicator. A list of measures is shown, including '1.23 GROSSAMOUNT', '1.23 NETAMOUNT', '1.23 TAXAMOUNT', '1.23 GROSSAMOUNT_ITMS', and '1.23 QUANTITY'. Below the measures, there is a section for 'Input Parameters (0)' with a dropdown arrow and a pencil icon.

Now highlight them all:

This screenshot shows the same list of measures as the previous image, but the five measures ('1.23 GROSSAMOUNT', '1.23 NETAMOUNT', '1.23 TAXAMOUNT', '1.23 GROSSAMOUNT_ITMS', and '1.23 QUANTITY') are now highlighted in a dark blue color. Each measure entry includes an information icon (i) and a menu icon (three dots) on the right side.

Finally move them with drag and drop to the measurements. Measures should now look like that:


Measures (5) 

 GROSSAMOUNT	SUM
 NETAMOUNT	SUM
 TAXAMOUNT	SUM
 GROSSAMOUNT_ITMS	SUM
 QUANTITY	SUM

Save and deploy the changes.

6.3 Create Analytic Model

Now we can create the Analytic Model:

 GVSalesOrderDetail 🕒 🛡️ 📄 25

Business Name:

Technical Name:


Semantic Usage:

Expose for Consumption OFF ?

[Create Analytic Model](#)


A new analytic model will be created:

Fact Sources (1)

 **Sales Order Detail View**
GVSalesOrderDetail


The properties are set to:


Analytic Model Properties




 New_Analytic_Model






Name: *

Technical Name: *

Status:
 Not Deployed



Measures (5)   

-  GROSSAMOUNT
-  GROSSAMOUNT_ITMS
-  NETAMOUNT
-  QUANTITY
-  TAXAMOUNT

And dimensions:

- ▼ Dimensions (20) 🗑️
- Sales order ID
 - Created by
 - Created at date
 - Changed by
 - Changed at date
 - Fiscal year variant
 - Fiscal year period
 - Note ID
 - Partner ID
 - Sales organisation
 - Currency key
 - Life cycle status

Save and deploy the model:

Save

Bike Tutorial /

Business Name	Technical Name	Type	Status	Changed By
🗄️ Sales Order Detail	GVSalesOrderDetail	View	Deployed	Juergen Noe P456119
🗄️ ProductCategories	ProductCategories	Local Table	Deployed	Juergen Noe P456119
🗄️ Products	Products	Local Table	Deployed	Juergen Noe P456119
🗄️ Bike Tutorial ERM	ERM_BIKE_Tutorial	E/R Model		Juergen Noe P456119
🗄️ SalesOrderItems	SalesOrderItems	Local Table	Deployed	Juergen Noe P456119

Business Name: *

Salesorder Details

Technical Name: *

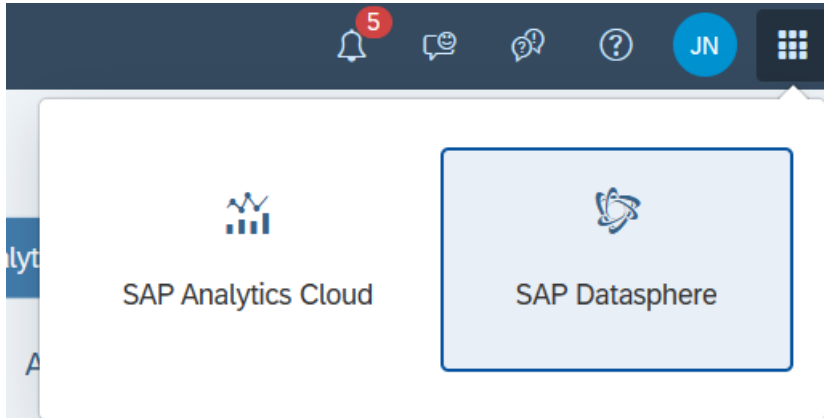
AMSalesorderDetails

Save Cancel

Everything is setup and we can consume the analytic model in SAC.

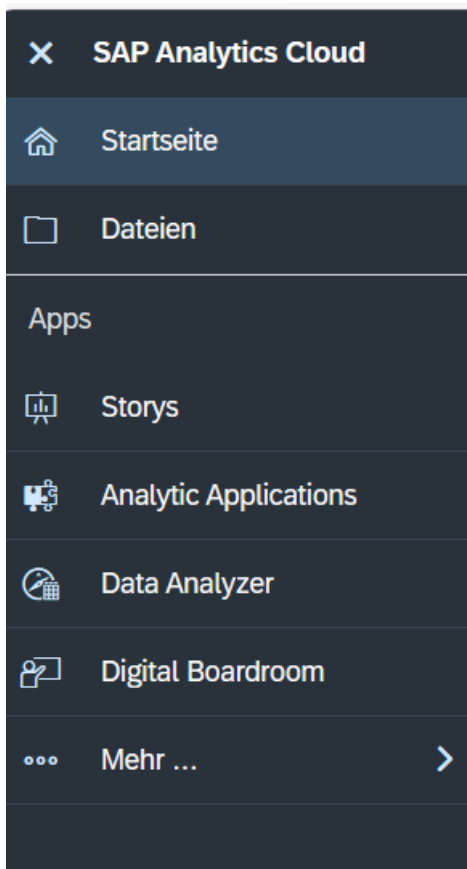
7 Consuming the Analytic Model in SAC

Switch from DataSphere to SAC in the DataSphere menu:



7.1 Create a story in SAC

We want to create a new story. Choose “Stories” from the menu in SAC:



We create a new flexible story:

Herzlich willkommen bei Storys

Legen Sie eine Story an, um Ihre Daten zu visualisieren, zusammenzufassen, zu untersuchen und zu überwachen. Fügen Sie Diagramme, Tabellen, Text und andere Objekte hinzu, und teilen Sie Ihre Erkenntnisse mit Ihrem Team. [Weitere Informationen ...](#)

Storys Lesezeichen Composites Benutzerdefinierte Widgets Widget-Add-Ons

Neu anlegen



Flexibel



Grafikbereich



Raster



Aus einer Smart Discovery

We use optimized mode for it:

Entwurfsmodustyp auswählen



Welchen Entwurfsmodus möchten Sie verwenden?

Optimiertes Entwurfserlebnis

Der optimierte Entwurfsmodus bietet ein verbessertes Benutzererlebnis beim Entwerfen von Dashboards. Dieser Modus hat einige nützliche neue Funktionen, umfasst jedoch nicht alle Funktionen, die derzeit im klassischen Entwurfsmodus unterstützt werden.

[Weitere Infos](#)

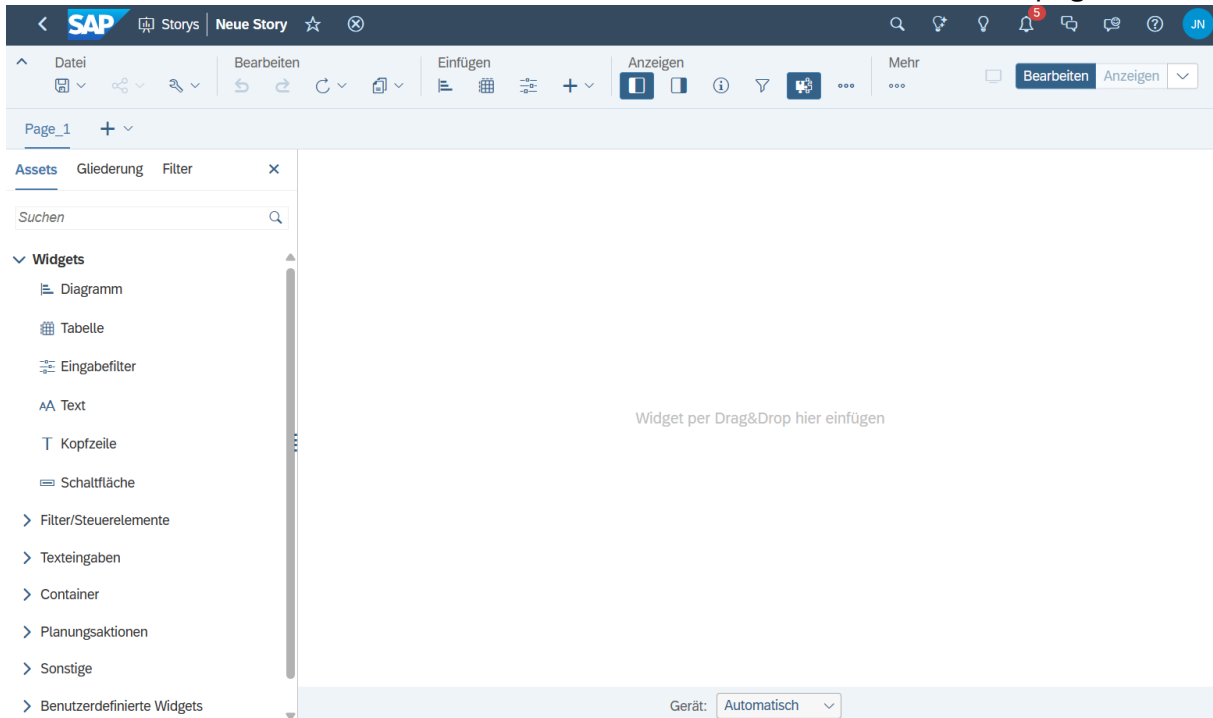
Klassisches Entwurfserlebnis ⚠ Abkündigungswarnung

Klassische Storys werden schrittweise eingestellt. Wir empfehlen, Ihre Story im optimierten Entwurfserlebnis anzulegen.

Anlegen

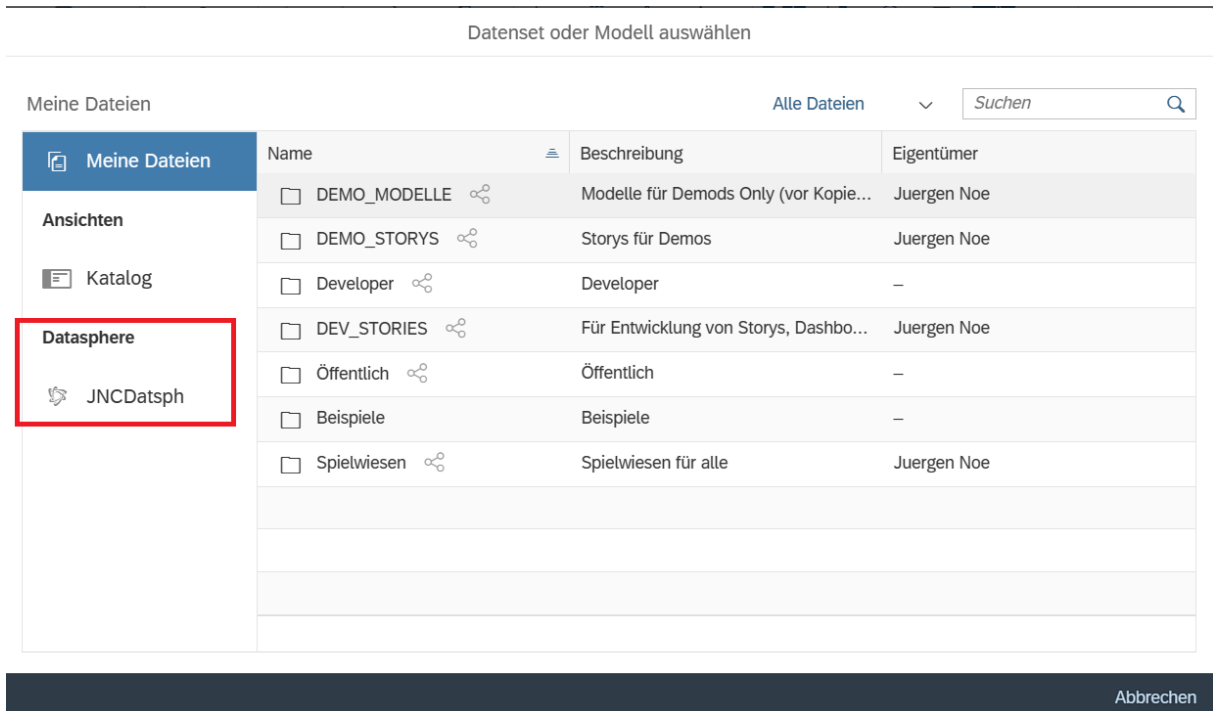
Abbrechen

A new empty story canvas is created:



7.2 Add Diagram using DataSphere Analytic Model

We want to use a diagram, drop it on the canvas. As no source data is defined, we are asked to define which data source should be used. As we connected DataSphere to SAC we get also DataSphere Datasets or Models to choose from.



We switch to Datsphere:

Datenset oder Modell auswählen

JNCDatsph Suchen

	Name	Beschreibung	Eigentümer
<ul style="list-style-type: none"> Meine Dateien Ansichten Katalog Datasphere <li style="background-color: #0070C0; color: white; padding: 2px;">JNCDatsph 	S01_BIKES_CSV	01 Best Run Bikes CSV	Juergen Noe P456119
	SPAC_CSV	Acquisition Layer CSV	Juergen Noe P456119
	SPMasterDATA	MasterData	Juergen Noe P456119
	SPTUTORIAL	Bike Tutorial	Juergen Noe P456119

Abbrechen

We see all Spaces where we are granted access rights and offer at least one analytic model. We choose our SPTUTORIAL space.

Datenset oder Modell auswählen

JNCDatsph / SPTUTORIAL Suchen

	Name	Beschreibung	Eigentümer	
<ul style="list-style-type: none"> Meine Dateien Ansichten Katalog Datasphere <li style="background-color: #0070C0; color: white; padding: 2px;">JNCDatsph 	AMSalesorderDetails	Salesorder Details		

Abbrechen

Here we find our “AMSalesOrderDetails” analytic model. We choose it and add it as data source to our diagram. We need to define at least one measurement and add one dimension for our requirement.

Builder

AMSalesorderDetails Verfügbare Objekte

Derzeit ausgewähltes Diagramm
Balken-/Säulendiagramm

Diagrammausrichtung
Horizontal

▼ **Kennzahlen**
+ Mindestens 1 Kennzahl erforderlich

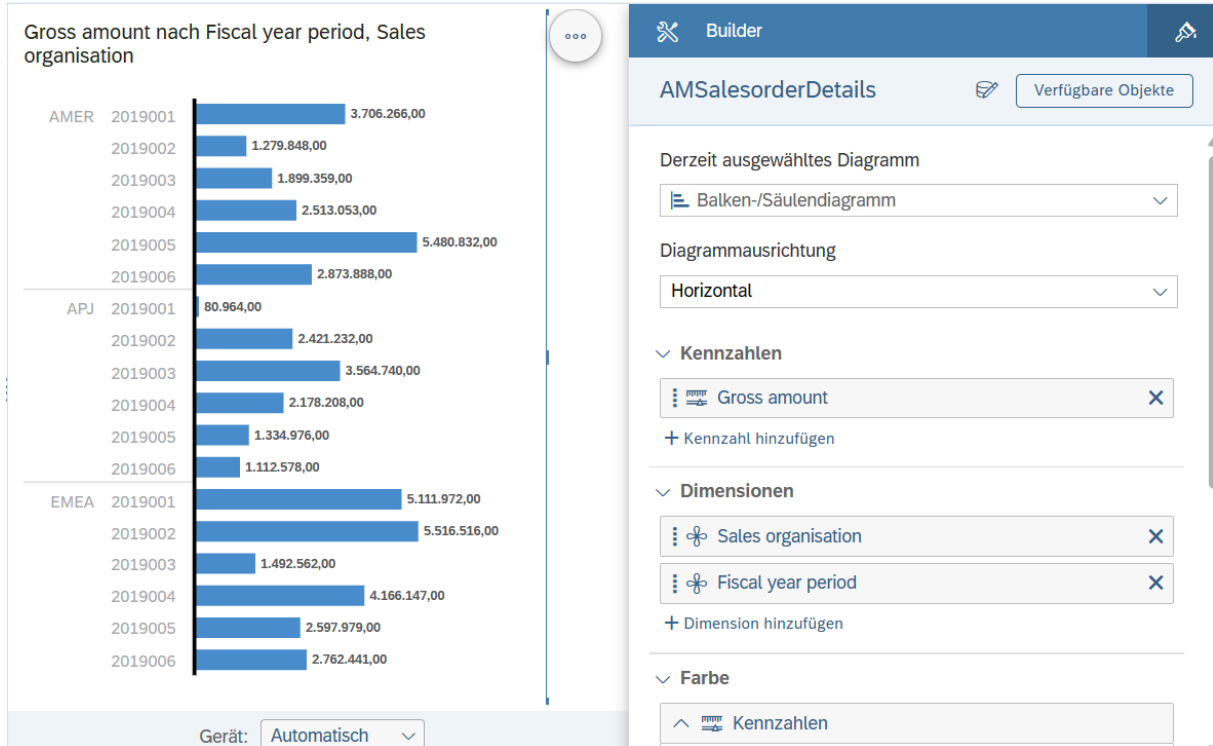
▼ **Dimensionen**
+ Dimension hinzufügen

▼ **Farbe**
+ Dimension/Kennzahl hinzufügen

Color palette: Blue, Orange, Green, Pink, Purple, Teal, Red, Magenta, Blue, Pink, Green

▼ **Filter**
+ Filter hinzufügen

Let's add grossamount and dimensions SalesOrganization and Fscal Year/Period:



Proudly we can present the solution to the customers.

I hope you enjoyed this tutorial with DataSphere and SAC. More to come soon.