Explore SAP Data Warehouse Cloud from A to Z

Session ID: ANA161

SAP TechED 2021

Exercises / Solutions

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1 Required Resources for Exercises

1.1 Download Required Resources

As part of the following set of exercises in SAP Data Warehouse Cloud as well as SAP Analytics Cloud, you will need a set of files. All relevant files can be downloaded from the GitHub site:
https://github.com/SAP-samples/teched2021-ANA161

Please download the file to your local machine and unzip the file into a separate folder.

1.2 System Details after your workshop

In case you are interested to follow the steps after the live online SAP TechED Sessions have finished, you can request your own SAP Data Warehouse Cloud tenant following this URL:

https://www.sap.com/cmp/td/sap-data-warehouse-cloud-free-trial.html

You will get a system with all components and can follow the step from the material outlined here.

Please note, that during the exercises mentioned here, you will see we talk about ANA161_XX where XX is replaced with your user number. In case you requested your own trial system, you will get your own user account and you can then create the objects based on your own accounts / naming convention.

2 Exercise Overview

In the following sections you will find exercises for SAP Data Warehouse Could and SAP Analytics Cloud. Some of the exercises are based on each other and some of the exercises are working on prebuilt / preconfigured materials to save you some time. Below you will find some brief outlines on the exercises and which exercises are based on each other, so that you can decide which exercises you would like to focus on.

2.1 SAP Data Warehouse Cloud – Data Builder

- SAP Data Warehouse Cloud – Exercise 01: First Log On (optional)
- SAP Data Warehouse Cloud – Exercise 02: Create Your first Space (mandatory)
- SAP Data Warehouse Cloud – Exercise 03: Prepare Your Data (optional)
- SAP Data Warehouse Cloud – Exercise 04: Creating the Entity Relationship Model (optional)
- SAP Data Warehouse Cloud – Exercise 05: Importing Tables (mandatory)
- SAP Data Warehouse Cloud – Exercise 06: Uploading Data (mandatory)
- SAP Data Warehouse Cloud – Exercise 07: Creating the Dimension (mandatory)
- SAP Data Warehouse Cloud – Exercise 08: Creating the View (mandatory)

2.2 SAP Data Warehouse Cloud – Business Layer

- SAP Data Warehouse Cloud – Exercises 09: Business Layer - Dimension
- SAP Data Warehouse Cloud – Exercises 10: Business Layer – Analytical Dataset
- SAP Data Warehouse Cloud – Exercises 11: Business Layer – Consumption Layer

2.3 SAP Analytics Cloud

- SAP Analytics Cloud – Exercise 12: Year over Year Comparison
  (requires Exercise 08 to be completed)
- SAP Analytics Cloud – Exercise 13: Revenue by Geography
  (requires Exercise 08 to be completed)
- SAP Analytics Cloud – Exercise 14: Best Salesperson
  (requires Exercise 11 to be completed)

3 Introduction to Your SAP Data Warehouse Cloud System

3.1 What is SAP Data Warehouse Cloud?

SAP Data Warehouse Cloud is an end-to-end data warehouse in the cloud that combines data management processes with advanced analytics. It is built on the powerful SAP HANA Cloud database and is, together with SAP Analytics Cloud and SAP Data Intelligence, part of the SAP Business Technology Platform.
SAP Data Warehouse Cloud:

- Empowers more end users with data access without the dependence on IT and data scientists.
- Value of data will be understood sooner as opportunities arrive with this enterprise-ready, always available data warehouse in the cloud. Trusted insights from all data will be gained at the speed of business.
- Allows decisions to be made in real time, as the business is working.
- Provides dynamic services without committing high entry costs and a large capital.

SAP Data Warehouse Cloud is the only cloud data warehouse solution designed for both, IT and LOB (Line of Business) users. Business users are empowered to leverage enterprise data and external data independently from IT but within a centrally governed environment. Business users can get the insight they need when they need
it and make trusted decisions without delay.

As SAP Data Warehouse Cloud is an end-to-end solution so that you do not have to paste together an array of sophisticated technologies so that you get value faster out of your data. You have all that is needed to transform distributed data of any size and shape into valuable insights.

In addition to this, with SAP HANA Cloud’s in-memory power, you get instant responses no matter where your data is. All you need is ready for you in the cloud with no upfront procurement and license costs.
SAP Data Warehouse Cloud is a cloud-native solution that makes you benefit from the agility of the cloud. It is elastic to scale compute and storage resources up and down on-demand, and you only pay for what you use.

Most importantly, SAP Data Warehouse Cloud works synergistically with your existing on-premises systems and provides you a simple and cost-efficient way to embrace cloud computing. You can use it to extend your existing warehouse investments to the cloud.

4 SAP Data Warehouse – Business Scenario

4.1 Sample Data Model

The sample data set for our session represents retail transactions from a number of outlet stores located in the US. Our transaction details include the store, the sold product, and the sales manager. In addition, we have the information on revenue, cost, discount, and profit for each transaction. The customer is looking for an analytics solution for their sales department.
These are the analytics they need:

Year-over-Year Sales Comparison
They want to compare the current years' company sales with the previous year.

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

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

In the following exercises we will use SAP Data Warehouse Cloud and SAP Analytics Cloud using sample data model and prepare the data model, and use SAP Analytics Cloud Stories to answer those open questions.

4.2 Sample Data Model

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

Following table displays detailed information about all the tables:

Table Name	Semantics	Modeling Information
Sales Transactions	Daily retail transactions per store.	Fact Data
Store	Details per Store Outlet	Dimension
Sales Manager	Details on all Sales Manager	Dimension
Product	Details on the products being sold.	Dimension

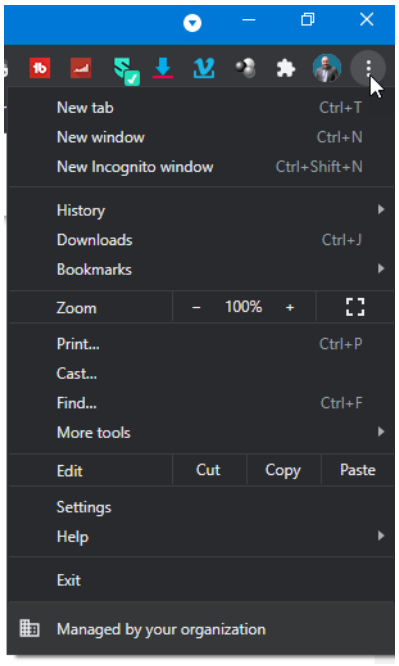
BEFORE YOU START YOUR EXERCISES

Please configure your browser language for Chrome to be English.

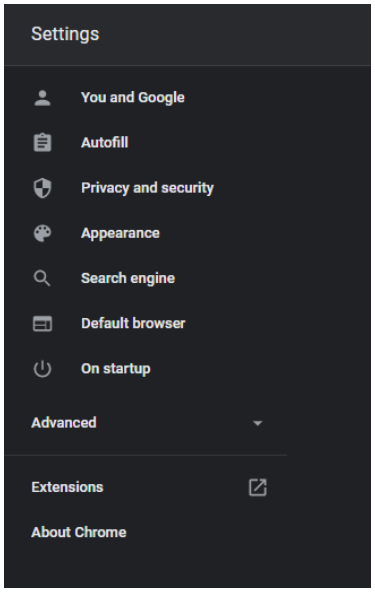
All exercises and all information have been configured and tested for English and are designed to have the best experience with English as language

To configure the browser language:

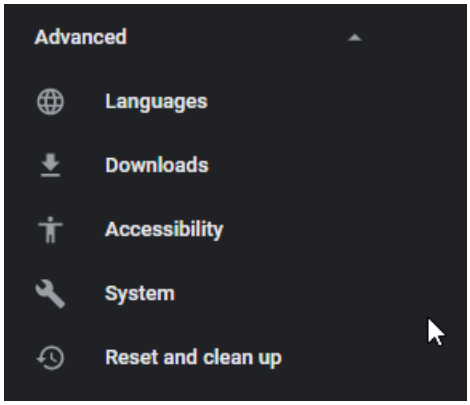
1. Open Google Chrome on your local system.



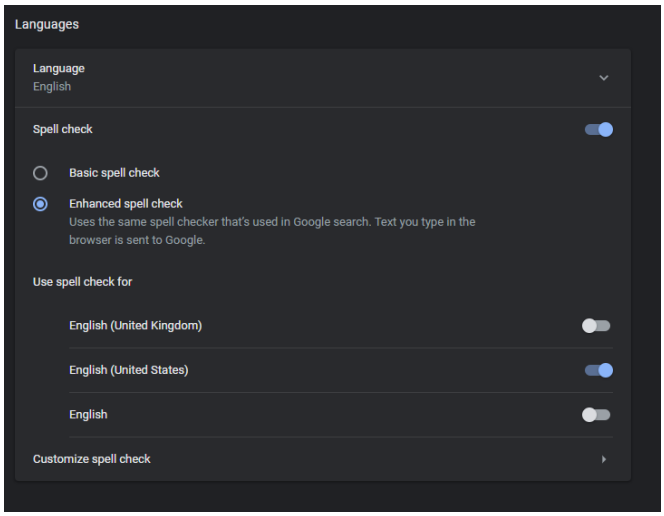
2. In the top right click More (the icon with three dots).
3. Select the menu option Settings.



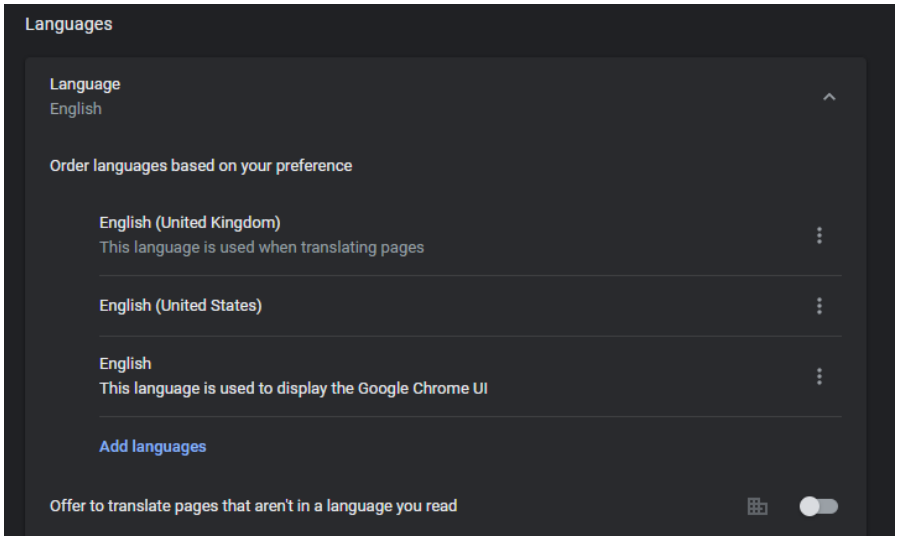
4. In the menu bar on the left-hand side, select the option Advanced.



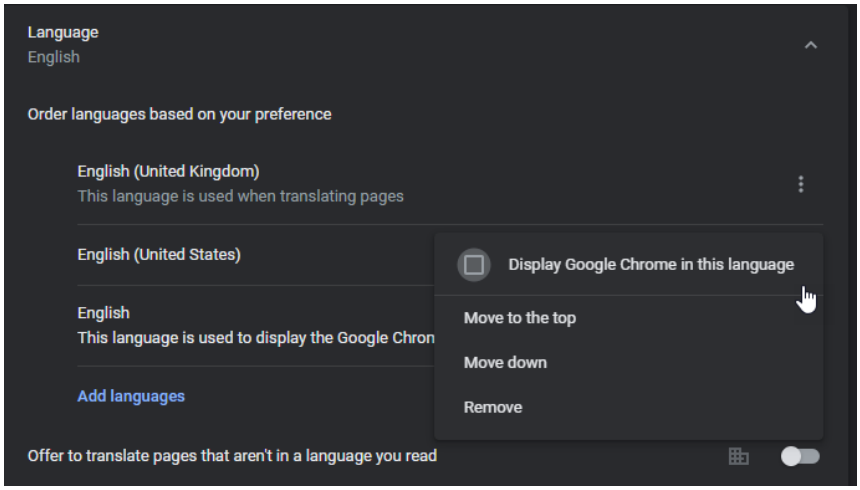
5. Under Advanced click the menu option Languages.



6. Navigate to the entry Language.
7. Ensure the language is set to English. In case English has not been added, you can use the option Add Languages.



8. Next to the language open the More menu (Icon with three dots).

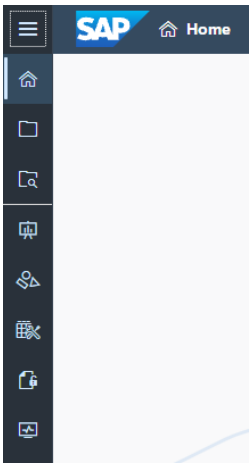


9. Select the option Display Google Chrome in this language.
10. You will have to restart Google Chrome to ensure the changes are taking effect.

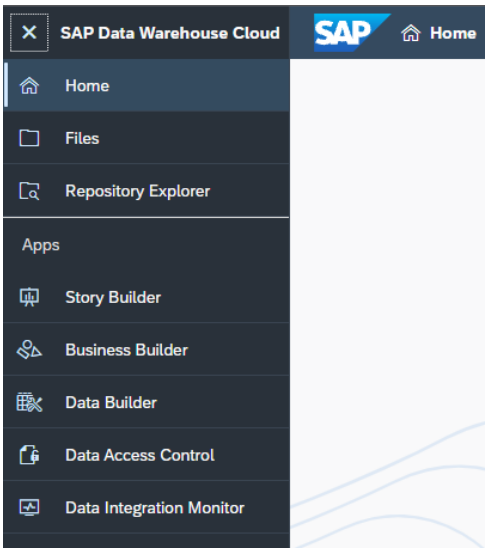
5 SAP Data Warehouse Cloud - Exercises

5.1 SAP Data Warehouse Cloud – Exercise 01: First Log On

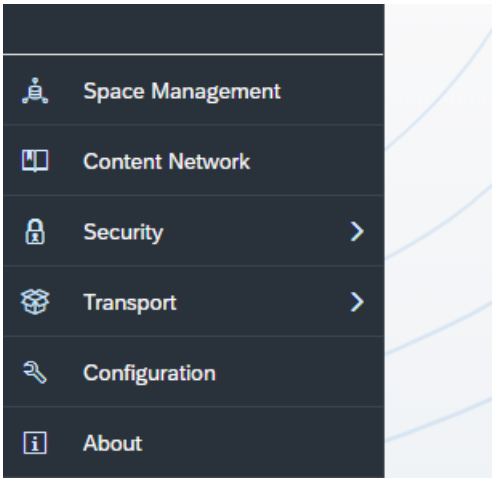
11. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
12. In the top left of the start screen you will find the menu options.



13. By clicking on the menu in the top left (the icon with the three stripes), you can expand the menu to also show the menu text.



14. The bottom part of the menu shows the administrative functions.



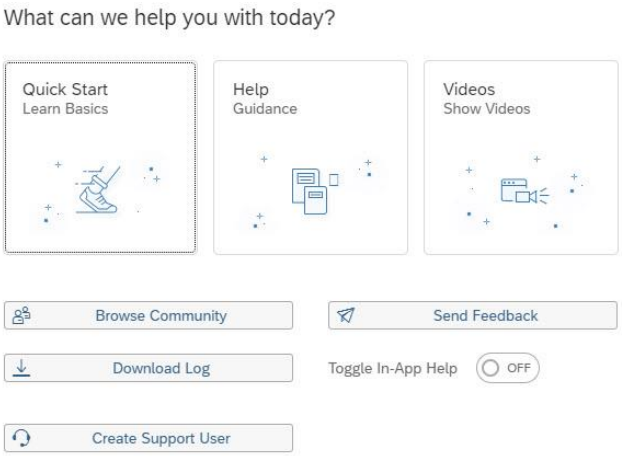
15. Now let's clarify the different areas:

- Repository Explorer: This gives you access to the Business Catalog of SAP Data Warehouse Cloud and you can search for the different assets in your SAP Data Warehouse Cloud based on descriptions and tags or assigned teams.
- Data Builder: This is where you create all the different asset types, such as tables, views, and entity relationship models and where you do your data modeling.
- Business Builder: This is where you can establish a semantic layer for your business users.
- Data Access Control: This is where you can configure row-level security.
- Data Integration Monitor: Here you receive an overview on all tables from remote data sources, such as your SAP HANA on-premise system, and you can configure if the table should be a remote data source, or if you would like to replicate (one or regular) the information into your SAP Data Warehouse Cloud.

16. Now let's take a look at the menu items from the Administrative section:

- Space Management: Spaces are a fundamental concept of SAP Data Warehouse Cloud and we will clarify the Spaces concept later on in this section.
- Content Network: The Content Network on the one hand provides you access to Sample content and Business Content from SAP and from SAP's partner network and on the other hand the Content Network is the area where you would export / import your own content for content lifecycle purposes.
- Security: This is the area where you create Users and Roles and also monitor traced activities of your system.
- System: This is the area where you configure your Data Provisioning Agents to gain access to your on-premise data sources, as well as the IP Whitelisting entries for the same purpose.

17. When you now navigate to the top right corner, please click on the  icon to launch the Help dialog.

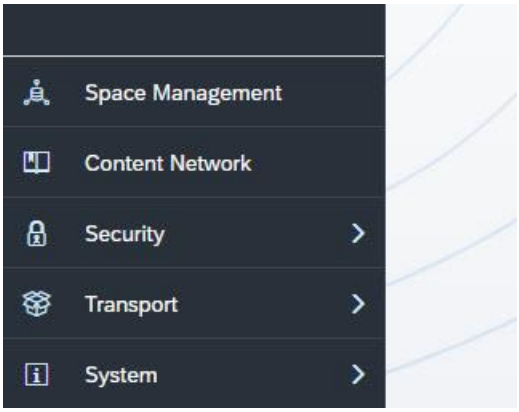


18. In the Help dialog you have multiple options from some Quick Start help to reach out to our support team.

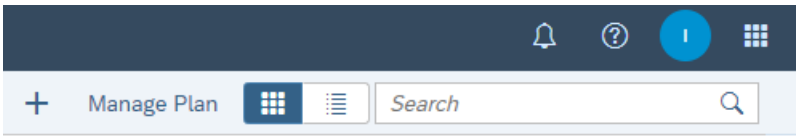
5.2 SAP Data Warehouse Cloud – Exercise 02: Create Your first Space

Spaces as part of the SAP Data Warehouse Cloud solution are virtual team environments where your administrator has the ability to assign users and roles, as well as additional resources, such as connections to data sources, and allocated space. In SAP Data Warehouse Cloud all data related workflows start with the selection of a Space, so you can see the Space is a fundamental concept and therefore we need to setup our Space as our first step.

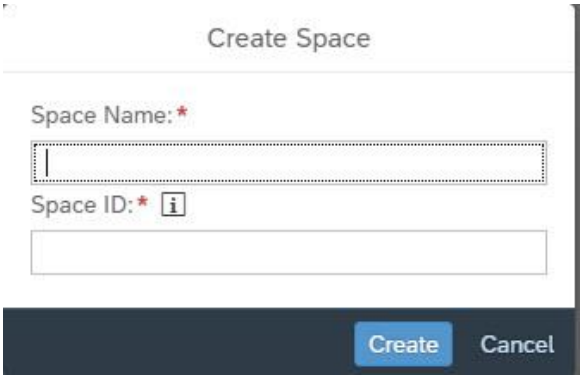
1. Log On to your SAP Data Warehouse Cloud system.
2. In the menu on the left-hand side, select the option Space Management.



3. After you selected the menu item, you will be presented with a list of existing Spaces and you have the ability to create a new Space.



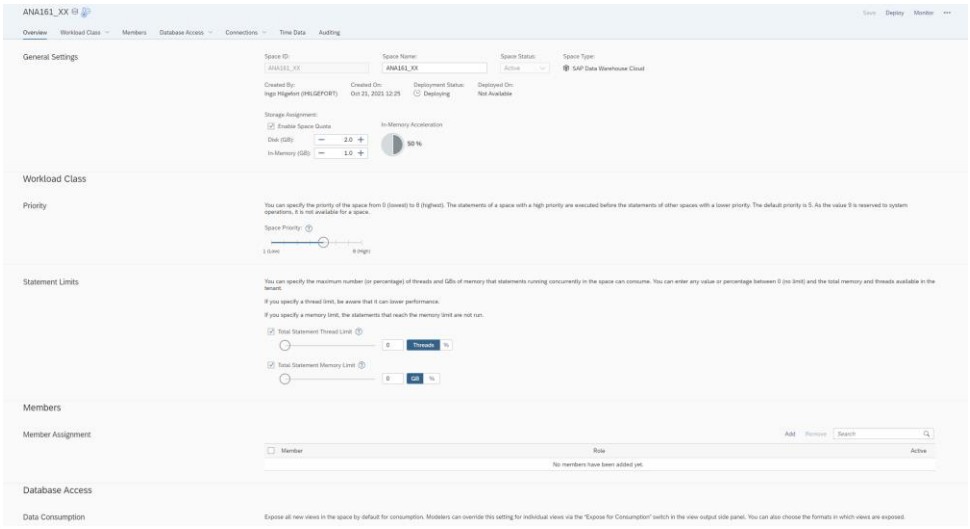
4. Use the “+” symbol to start the process to create a new Space (top right corner)



5. Enter a Space Name – for our example use the following details:
    - Space Name: ANA161_XX
    - Space ID: ANA161_XX

    Please replace the “XX” with your assigned User Number.

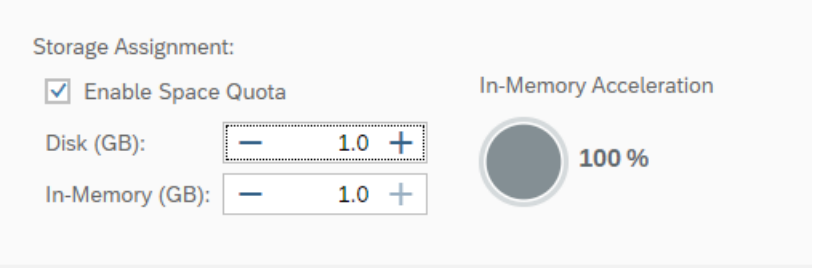
6. The Space ID will be suggested based on your Space Name, but you have the option to change it as well.
7. Click Create.



8. You are now being presented with the properties of your new Space and you have the ability to configure the following options:

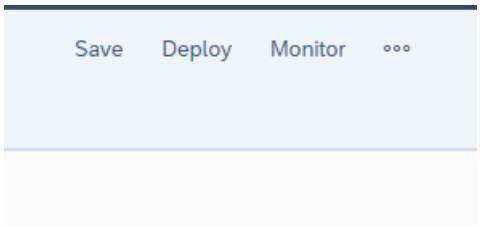
    - You can add Users to the Space.
    - As part of the Storage Assignment you can decide, how much storage space overall you will allocate to the Space and how much of the assigned storage space you will assign to the In-Memory allocation.
    - You can assign the Space Priority, which will become relevant when multiple Spaces are sending requests to the system and the assigned priority will then help to decide which request takes priority.

9. Ensure that you configure the Storage Assignment as shown here with 1 GB for Disk and 1 GB for in-memory.

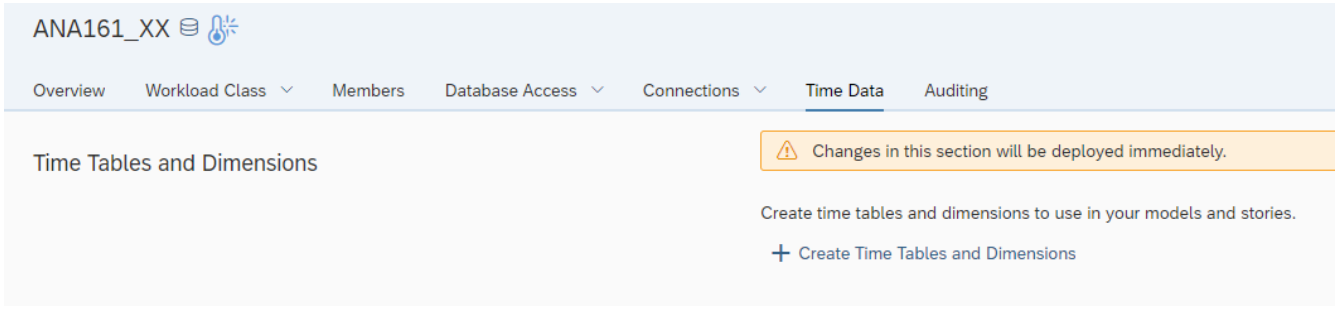


10. Now use the “Add” option in the Members area to assign your user to the Space.

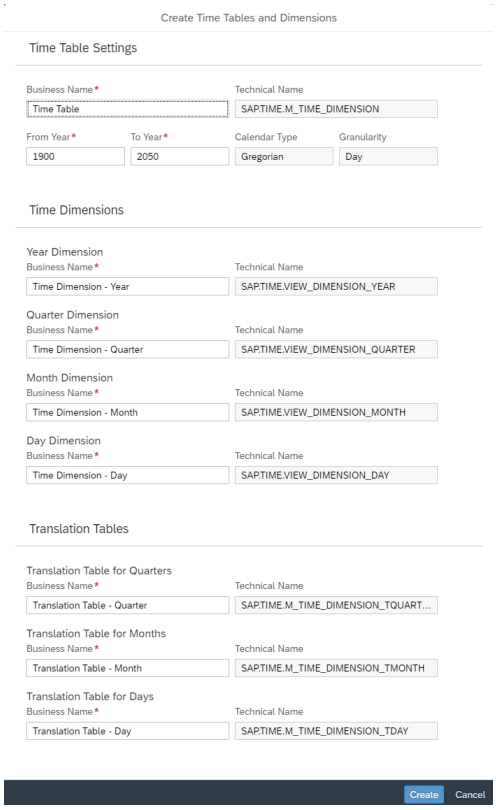
11. Select the user matching your assigned user from the list of available users.
12. Click Add.
13. In the top right, click Save.



14. In the Connections area we can later assign connections to remote data sources.
15. No Click on the tab Time Data in the top toolbar.



16. Click on “+ Create time Tables and Dimensions”.

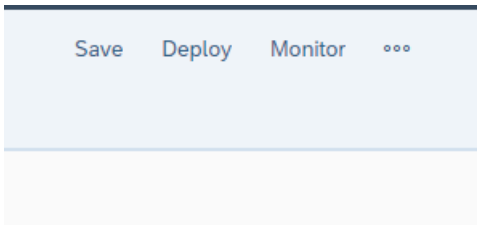


17. For the From Year enter 2019.

18. For the To Year enter 2022.
19. For all other elements leave the default values.
20. Click Create.

This will create a set of Date / Time Tables which we will use as part of our model to create a date hierarchy (Year, Quarter, Month, Day).

21. In the top right, click Save.

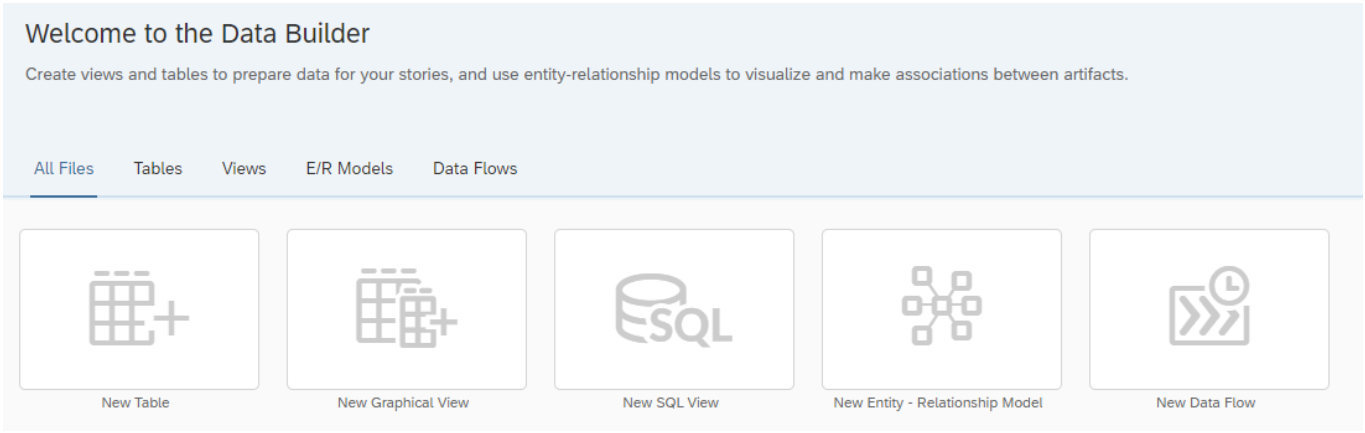


22. In the top right, click Deploy.

You just created your first Space in SAP Data Warehouse Cloud and you can now start your next step and create your first table and model.

5.3 SAP Data Warehouse Cloud – Exercise 03: Data Layer - Prepare Your Data

Before we are going to start with our first exercise in creating a table and creating our first model, lets clarify the different asset types that you can create in SAP Data Warehouse Cloud.
When you launch the Data Builder from the menu, you will be presented with this screen:



So, let's now look at the different asset types:

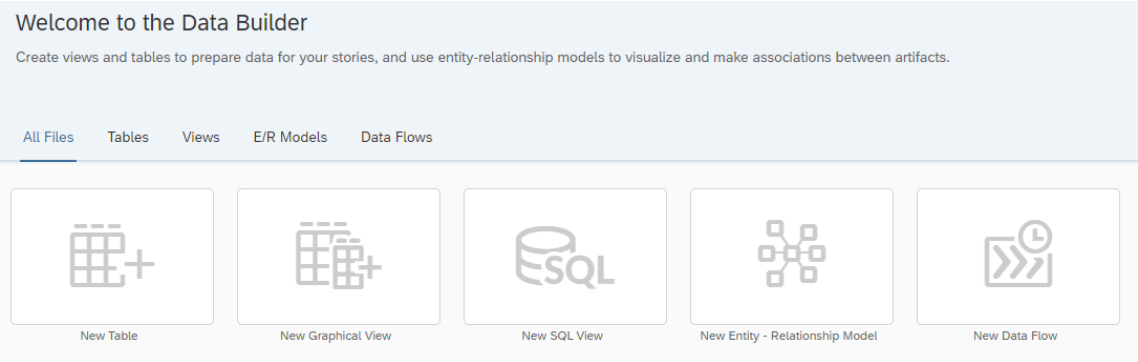
- Table: Here you basically define a new table from scratch, and you configure each field of the table and you do have the ability then to upload data to this table later on.
- Graphical View: In the Graphical View you can leverage Tables and Views to the create new Views using a visual interface.
- SQL View: In the SQL View you can leverage Tables and Views to the create new Views by using SQL directly
- Entity Relationship Model: Here you define the relationships between Tables or Views, which then are being leveraged when you create a new View based on the Tables or Views.
- Data Flow: Here you can define data transformations and leverage the option to load data from a source system into SAP Data Warehouse Cloud.

In this section we will start creating the tables for our sample models and then upload the raw data to those tables. In the first part of this overall section, we will look at the sample model and which tables we will need. In the second part we will then create those tables in SAP Data Warehouse Cloud and finally in the third part, we will upload the raw data to those newly created tables, and we will also setup a hierarchy as part of the tables.

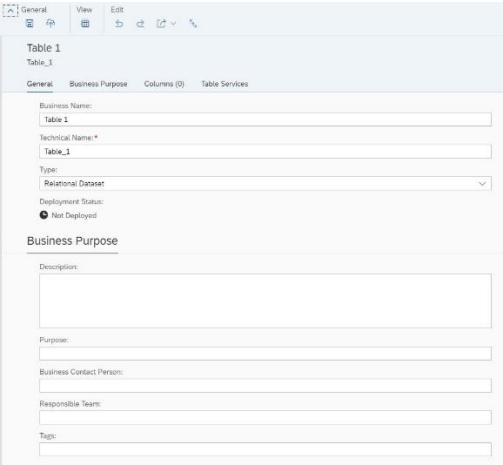
In the next steps we will setup a relatively simple data model and we will start by creating the tables first and then upload the information for each table in form of CSV Files.

In the next steps we will start to create the tables in SAP Data Warehouse Cloud.

1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.
3. In case you are being asked, select your previously created Space – ANA161_XX.



4. Select the option New Table.

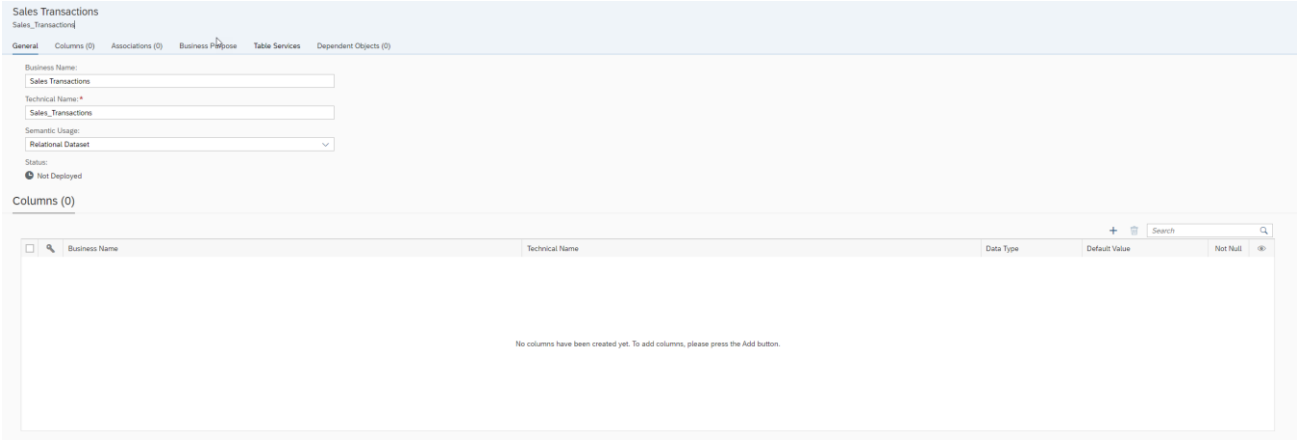


5. You are being presented with the details to create a new table.
6. Enter the following details:
    - Business Name Sales Transactions
    - Technical Name Sales_Transactions
    - Type Relational Dataset
7. We also can provide already as part of the table, some business description and Tags, which then will be used as part of the Business Catalogue.
8. Enter the following details for the Business Purpose:
    - Description This is the table for the Sales Transactions
    - Tags Sales transaction, Revenue, transactions

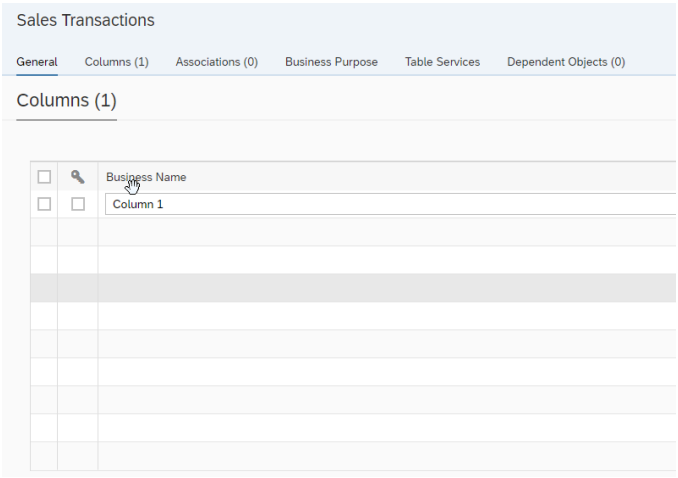
Tags

Please note, that when entering the Tags, you have to enter each tag individually for now and you can't enter multiple tags separated by comma right now.

9. Scroll down to the area Columns (you can also use the tabs in the page header for navigation). Here you define now the structure of the table by adding the individual columns.



10. Use the "+" sign in the top right corner of the Columns area to start the process of creating your first table column.



11. You now need to enter a Business Name, a Technical Name, and you need to configure the Data Type.
12. For the first column, enter the following details:
    - Business Name Transaction ID
    - Technical Name Transaction_ID
    - Data Type Integer64

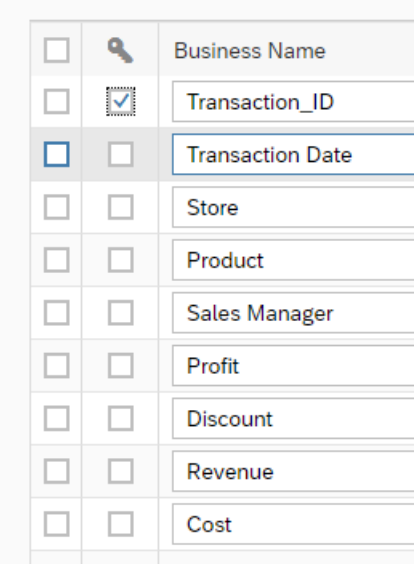
Data Type

Please note, that you can change the Data Type simply by clicking on the item in the Data Type column.

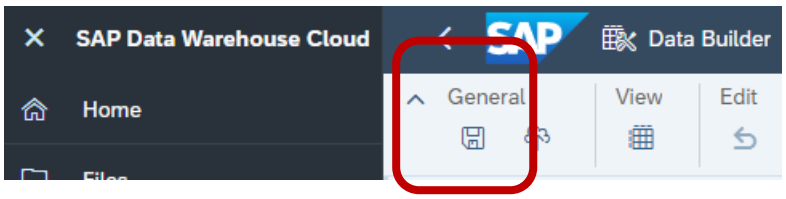
13. After you entered the details for the first column, please enter the following additional columns:

Business Name	Technical Name	Data Type
Transaction ID	Transaction_ID	Integer64
Transaction Date	Transaction_Date	Date
Store ID	Store_ID	String (6)
Product ID	Product_ID	String (4)
Sales Manager ID	Sales_Manager_ID	String (4)
Profit	Profit	Decimal(15,2)
Discount	Discount	Decimal(15,2)
Revenue	Revenue	Decimal(15,2)
Cost	Cost	Decimal(15,2)

14. After you entered all columns for the table, ensure you enable the Key Column option for the column Transaction ID.

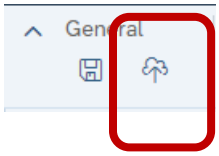


15. Now use the Save option in the General menu.

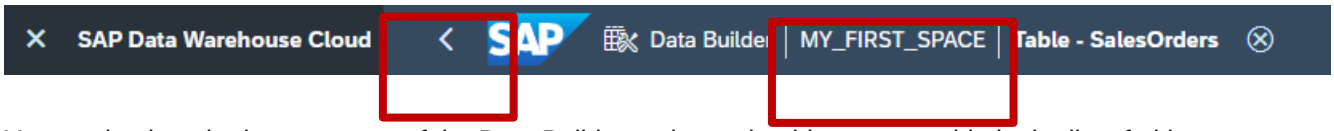


16. On the first time you save the table, you will be asked to confirm the name and technical name.
17. Click Save.
18. After you saved the changes, you also have to deploy the table, so that we can later on upload data to the table.

19. Use the Deploy option from the General menu.



20. We configured, saved, and deployed our first table.
21. Now use the Back option in top menu or as alternative you can click on your Space name to navigate back to the list of tables.



22. You are back at the home screen of the Data Builder and you should see your table in the list of objects.
23. Use the option New Table.
24. Enter the following details:
    - Business Name Store
    - Technical Name Store
    - Type Dimension
25. Navigate to the Attributes area.
26. You will notice, based on the Type Dimension, we now have two additional options for each Column: Semantic Type and Label Column.

    The Label Column allows you to specify a column from the table to be used as Label. For example, you could have a Product ID and a Product Description in the table and use the Product Description column as Label for the Product ID.

    The Semantic Type option provides you with several option to choose from, so that you can configure an additional context for the column, such as the option to configure the column as a Currency column or a language column.

27. Use the “+ sign to create new attributes.

28. Enter the following Attributes for the table:

Business Name	Technical Name	Data Type	Semantic Type	Label Column
Store ID	Store_ID	String (6)	None	Store_Name
Store Name	Store_Name	String (30)	Text	
Store City	Store_City	String (20)		
State ID	State_ID	String (2)		
State Name	State_Name	String(30)		
Country	Country	String(30)		
Latitude	Latitude	Decimal(15,8)		
Longitude	Longitude	Decimal(15,8)		

Label Colum

Please note, that you can only select the Store Name for the Label Column after you entered the details for the Store Name into the Attributes.

29. After you entered all columns for the table, ensure you enable the Key Column option for the column Store ID.
30. Click Save in the General menu.
31. You will be asked to confirm the Business Name as well as the Technical Name.
32. Click Save.
33. Click Deploy in the General Menu.
34. Use the Back option in top menu or as alternative you can click on your Space name to navigate back to the home screen of the Data Builder.
35. Use the option New Table.
36. Enter the following details:
    - Business Name Product
    - Technical Name Product
    - Type Dimension
37. Navigate to the Attributes for the table.
38. Enter the following Attributes for the table:

Business Name	Technical Name	Data Type	Semantic Type	Label Column
Product ID	Product_ID	String (4)	None	Product Name
Product Name	Product_Name	String (30)	Text	
Product Category ID	Product_Category_ID	String (4)	None	Product Category Name
Product Category Name	Product_Category_Name	String (30)	Text	

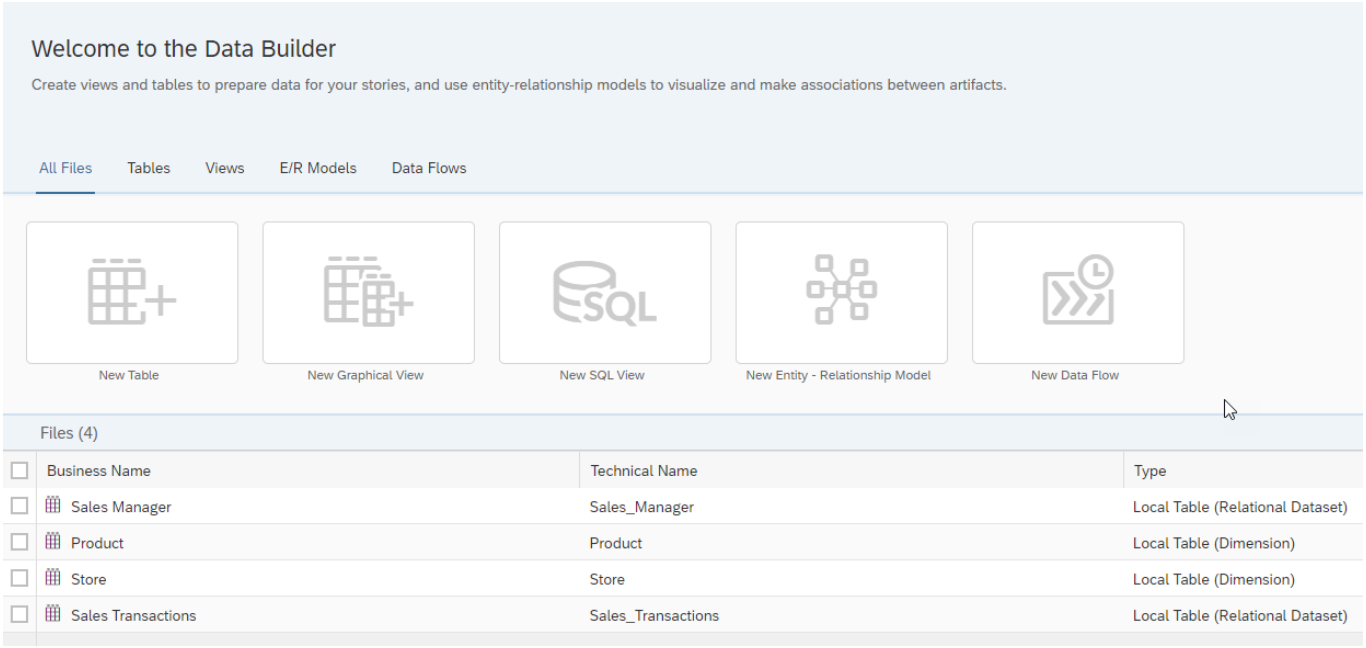
39. After you entered all columns for the table, ensure you enable the Key Column option for the column Product ID.

40. Click Save in the General menu.
41. You will be asked to confirm the Business Name as well as the Technical Name.
42. Click Save.
43. Click Deploy in the General Menu.
44. Use the Back option in top menu or as alternative you can click on your Space name to navigate back to the home screen of the Data Builder.
45. Enter the following details:
    - Business Name Sales Manager
    - Technical Name Sales_Manager
    - Type Dimension
46. Navigate to the Attributes for the table.
47. Enter the following Attributes for the table:

Business Name	**Technical Name**	**Data Type**	**Semantic Type**	**Label Column**
Sales Manager ID	Sales_Manager_ID	String (4)	None	Sales Manager Name
Sales Manager Name	Sales_Manager_Name	String (30)	Text	

48. After you entered all columns for the table, ensure you enable the Key Column option for the column Sales Manager ID.
49. Click Save in the General menu.
50. You will be asked to confirm the Business Name as well as the Technical Name.
51. Click Save.
52. Click Deploy in the General Menu.
53. Use the Back option in top menu or as alternative you can click on your Space name to navigate back to the home screen of the Data Builder.

At this point we created all tables that we need for our model and the overview in the Data Builder should look like this:



5.4 SAP Data Warehouse Cloud – Exercise 04: Data Layer - Creating the Entity Relationship Model

In the previous exercise we created the tables in SAP Data Warehouse Cloud. So, in this exercise we will create the Entity Relationship Model. But before we start the exercise, lets clarify what an Entity Relationship model is and why we are creating it.

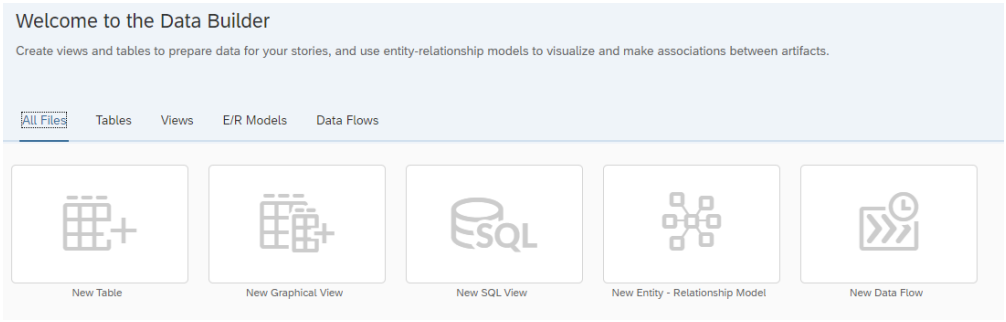
An Entity Relationship Model provides a variety of benefits:

- Definition of entity-relationship models
- Design physical or remote database models
- Re-use existing entities (table, view) from Data Builder
- Add new entities on-the-fly
- In-editor real time data preview
- Model Import / Export

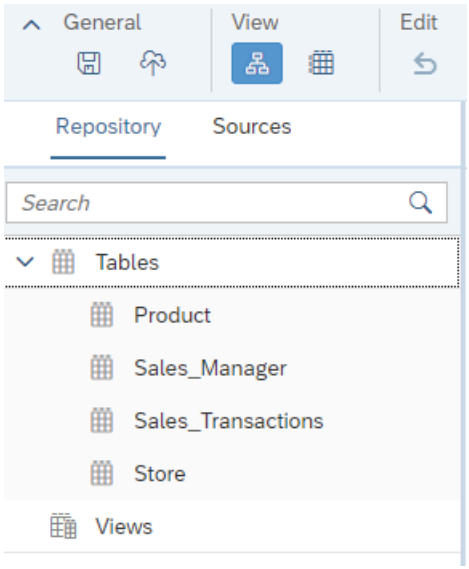
Basically, the Entity Relationship Model is not a view that you would consume in SAP Analytics Cloud, but instead it represents the relationship between the tables or views, and it helps you to define the relationship once, so that when you create a new view, that you do not have to define those relationships each time.

In the next steps we will create the new Entity Relationship Model.

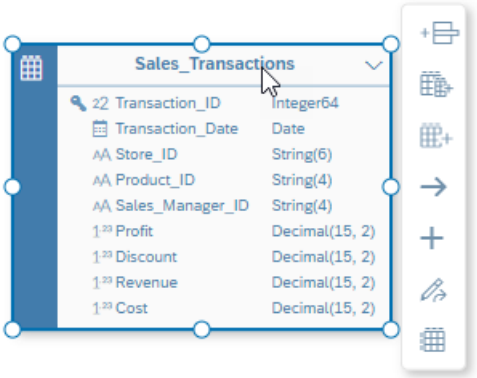
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.



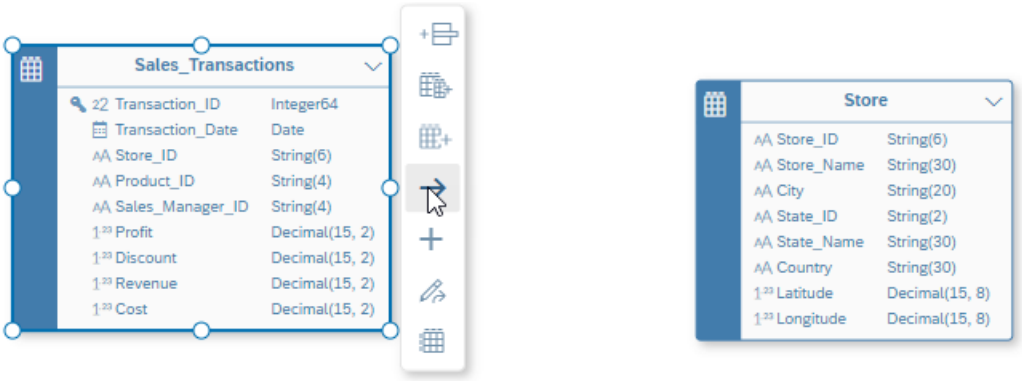
3. Select the option New Entity - Relationship Model.
4. On the left-hand side you are presented with the local Tables and Views from your Repository and you also have the option to bring in Tables from any remote Sources that you have configured.
5. Ensure to select the option Repository, so that we see the local Tables.
6. Open the list of Tables.



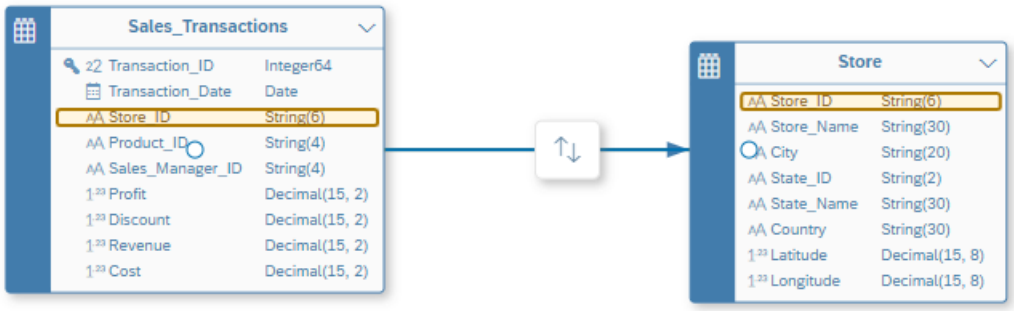
7. Here you should see the tables that we created previously.
8. Now drag and drop the table Sales Transactions to the canvas.



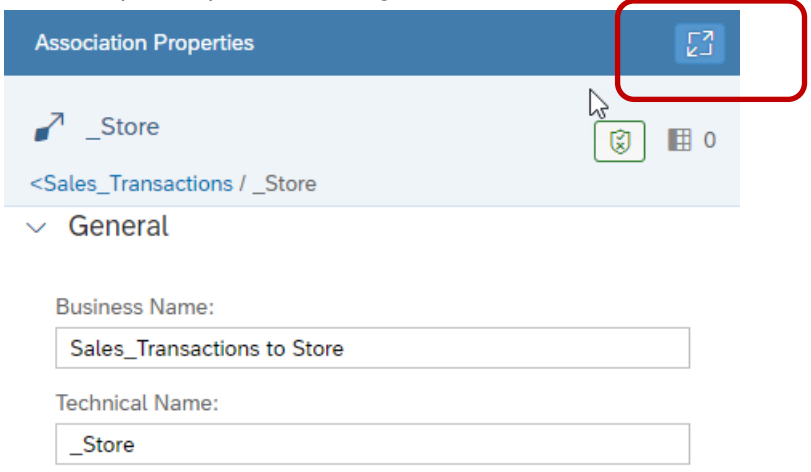
9. When you select the Sales Transactions table on the canvas, you are presented with additional options, that allow you to add a new column, create a new View, create a new table, create a join, open the table in the editor, and to preview the data.
10. Now drag and drop the table Store to the canvas next to the table Sales Transactions.
11. Select the table Sales Transaction.
12. Click on the symbol to Create a new Association.



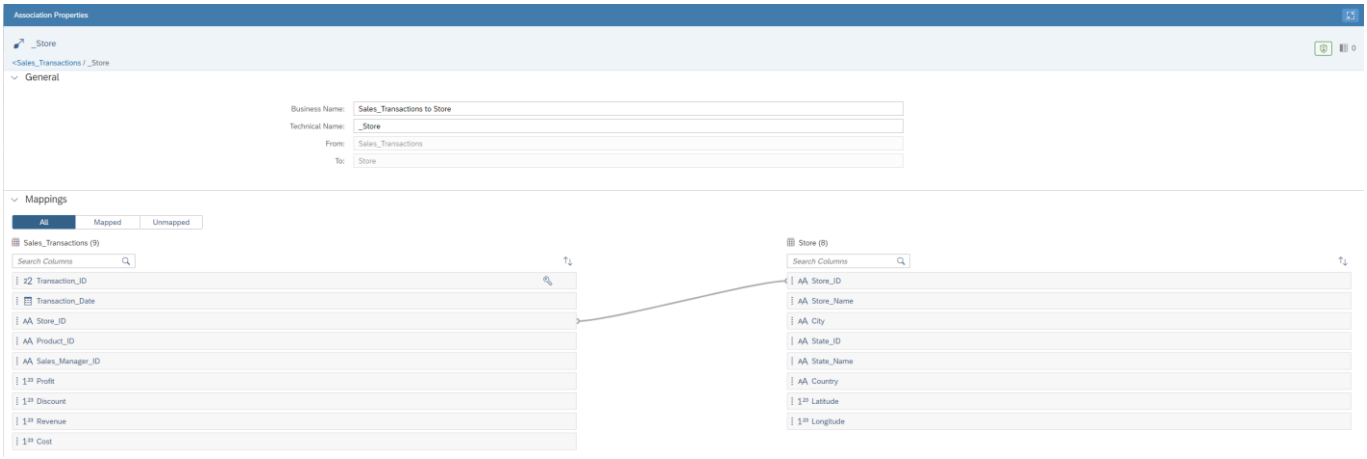
13. Click on the arrow symbol and drag the icon over to the table Store. You are creating a new Association between the table Sales Transactions and the table Store.



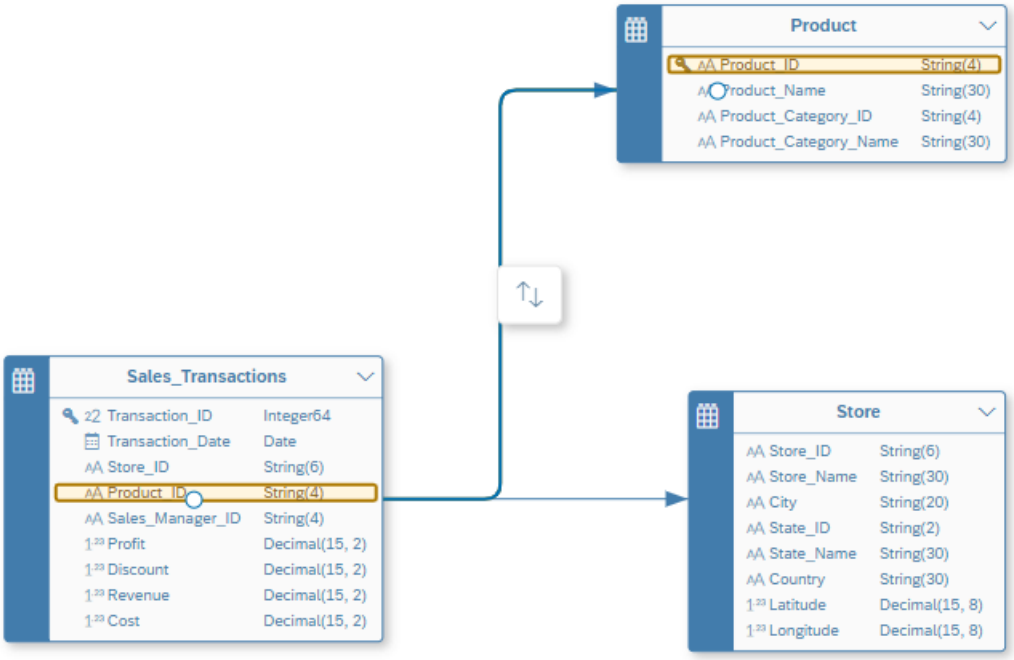
14. In the Properties panel on the right-hand side click on the Expand icon.



15. Ensure that the join between the table Sales Transactions and Store is based on column Store ID (STORE_ID). The system suggests this based on matching columns, but you can also add / remove these joins manually.

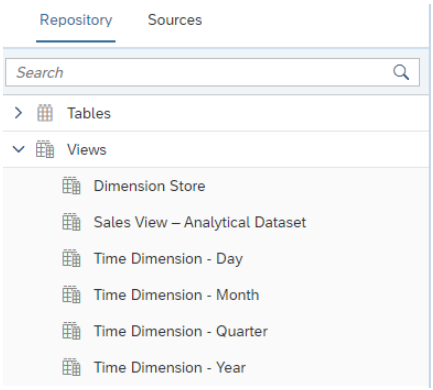


16. Click on the Expand icon in the top right corner again to reduce the size of the panel.
17. Now drag the table Product onto the canvas.
18. Select the table Sales Transactions on the canvas.
19. Select the arrow and drag and drop the arrow to table Products to create a new Association between the table Sales Transactions and table Product.

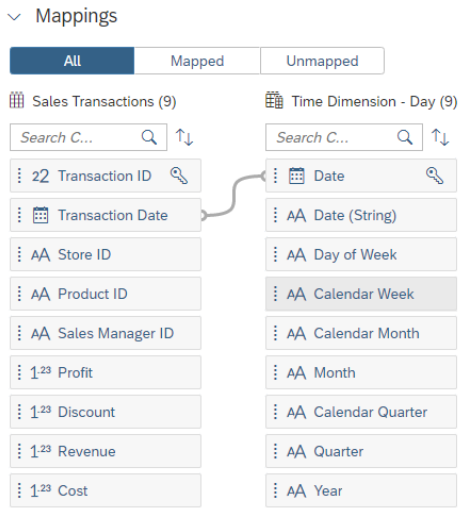


20. Ensure that the join between the Sales Transactions table and table Product is based on the Product ID (Product ID) column.
21. Now drag the table Sales Manager onto the canvas.
22. Create a new Association between table Sales Transactions and table Sales Manager.
23. Ensure that the join between the Sales Transactions table and the Sales Manager table is based on the Sales Manager ID (Sales Manager ID) column.

24. On the left hand side in the Repository panel, open the list of Views.

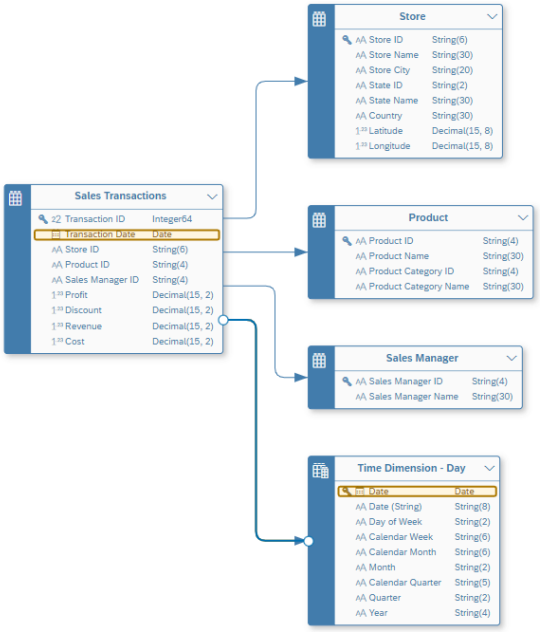


25. Now drag the View Time Dimension – Day to the canvas.
26. Select the table Sales Transactions on the canvas.
27. Select the arrow and drag and drop the arrow to the view Time Dimension - Day to create a new Association between the table Sales Transactions and the view Time Dimension - Day.
28. In the panel on the right-hand side now, create a join between the Transaction Date column and the Date column.



29. You can use the option to arrange all tables in the toolbar.

30. Your Entity Relationship Model should look like the image shown below.



31. Save the changes to your Entity Relationship model by using the Save option in the General menu.
32. Enter the following details:
    - Business Name My First Entity Model
    - Technical Name My_First_Entity_Model
33. Click Save.
34. Deploy the model.

We created the Entity Relationship Model and will make use of it in the next steps when we create the Views.

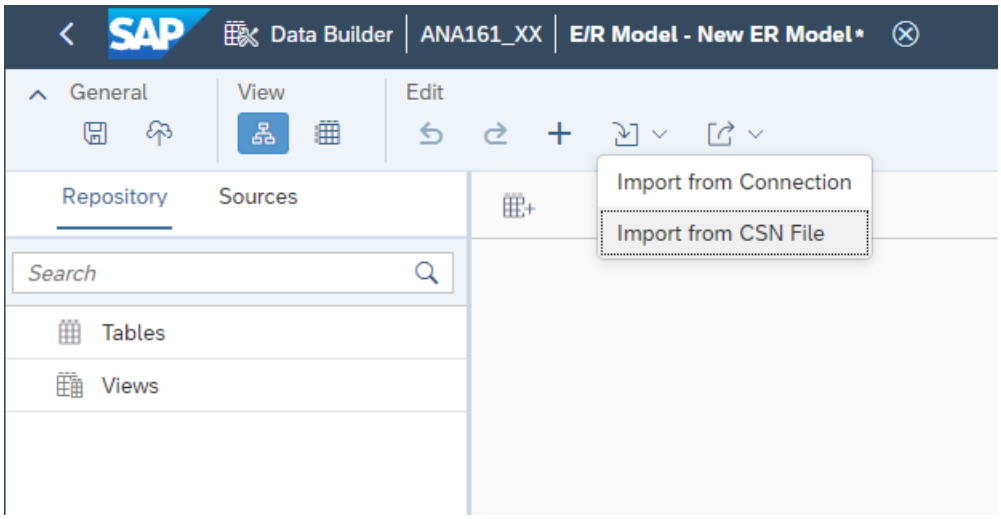
5.5 SAP Data Warehouse Cloud – Exercise 05: Data Layer - Importing Tables

Please note, that this exercise is only required in case you did not create the tables and the Entity Relationship Model for our sample model manually, but instead prefer to import them.

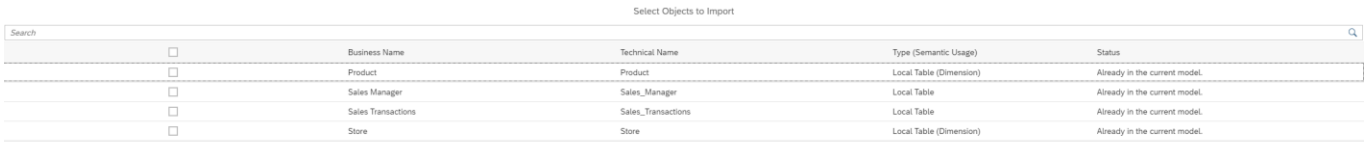
The file for this exercise is “Sales Model - Entity Relationship Model.json” and the file is part of the ZIP file you downloaded.

We will now import the table definitions in form of JSON file by importing a Entity Relationship Model.

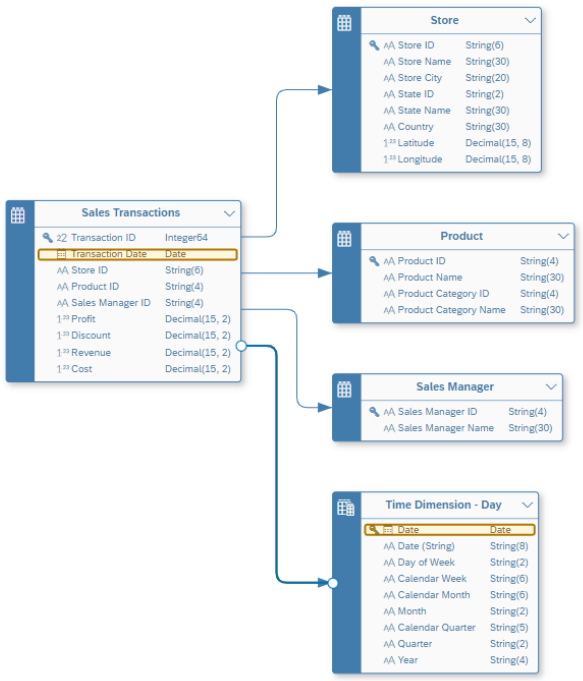
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.
3. Select the option New Entity – Relationship Model.
4. In the New Entity Relationship Model, navigate to the toolbar.
5. Navigate to the Edit menu.



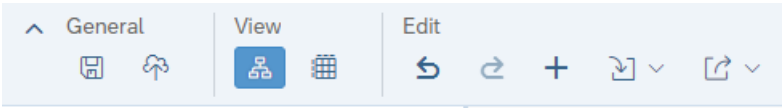
6. Open the Import option.
7. Select the option Import from CSN File.
8. Select the file “Sales Model - Entity Relationship Model.json”
9. Click Next.



10. Select all tables.
11. Click Import CSN File.
12. You will receive a message about the import being completed and the tables will be shown on the canvas in form of the imported Entity Relationship Model.



13. Save the changes to your Entity Relationship model using the Save option in the General menu.



14. Enter the following details:
    - Business Name Sales Model - Entity Relationship Model
    - Technical Name Sales_ER_Model
15. Click Save.
16. Deploy the model using the Deploy option in the General menu.

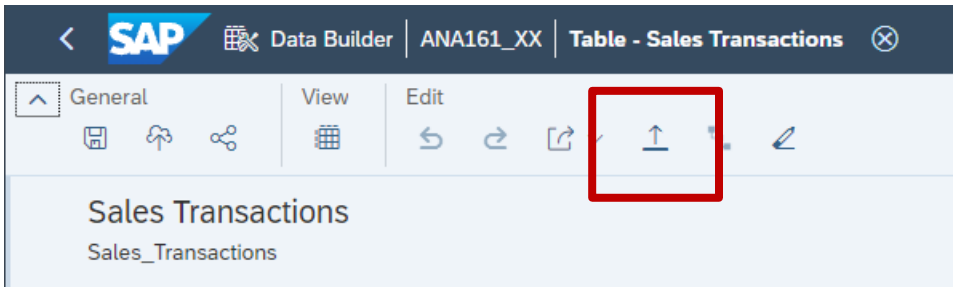
As part of the deployment of the Entity Relationship Model, also the underlying tables are being imported and deployed. When you navigate to the Data Builder screen, you should now see a set of 4 tables / dimensions and 1 Entity Relationship Model.

5.6 SAP Data Warehouse Cloud – Exercise 06: Data Layer - Uploading Data

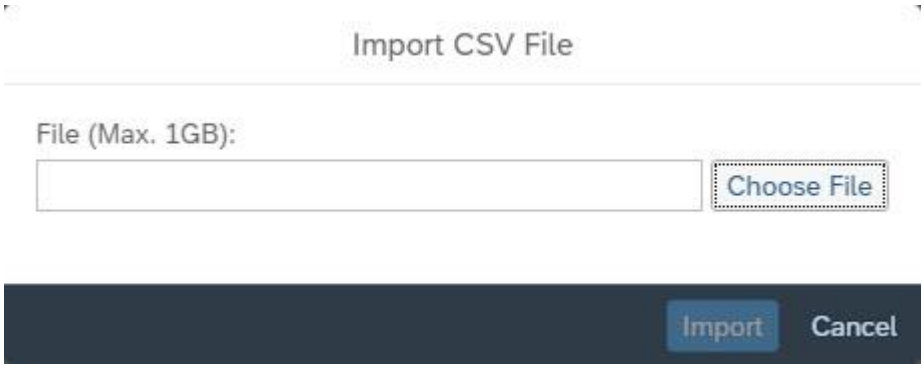
The files for this exercise are part of the ZIP file you downloaded in the beginning.

We will now upload the CSV files into the corresponding tables.

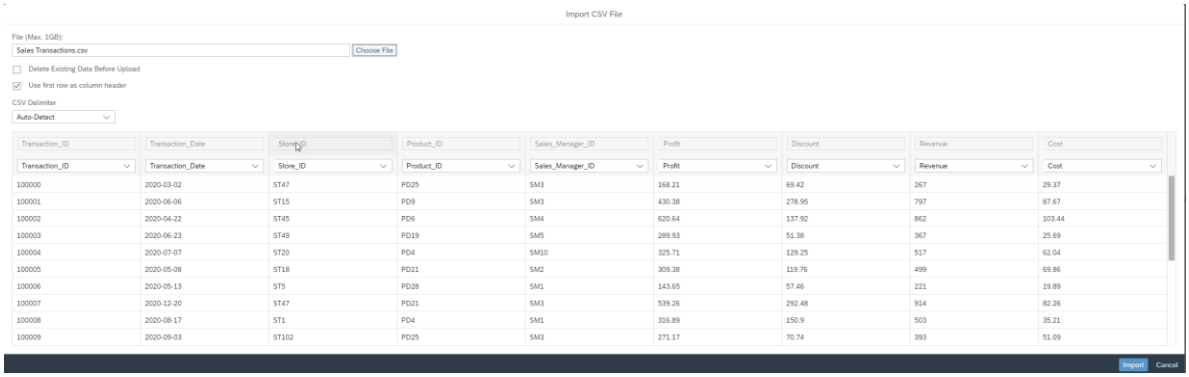
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.
3. Use a double-click on the table Sales Transactions.



4. Select the menu option Upload Data from CSV File in the toolbar.



5. Click Choose File.
6. Navigate to where you unzipped the download.
7. Select the file “Sales Transactions.csv”.



8. Ensure the option Use first row as column header is enabled.
9. Ensure the CSV Delimiter option is set to Auto-Detect.
10. Ensure the option Delete Existing Data Before Upload is enabled.

11. Ensure that all columns of the table have a mapped column from the CSV File.
12. Click Import.
13. You should receive a message about the successful import of the information.
14. There is no need to save / deploy the table after you imported the data.

You can now continue and repeat the steps for the other tables. Each table does have a corresponding CSV file as part of the download.

Please upload the data for the following tables:

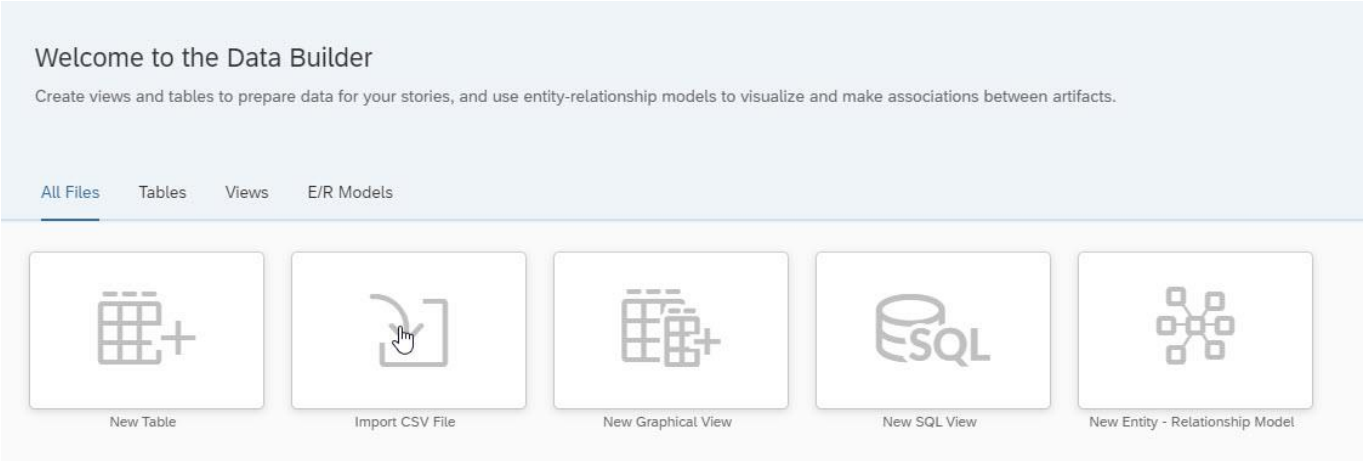
- Product
- Store
- Sales Manager

5.7 SAP Data Warehouse Cloud – Exercise 07: Data Layer - Creating the Dimension

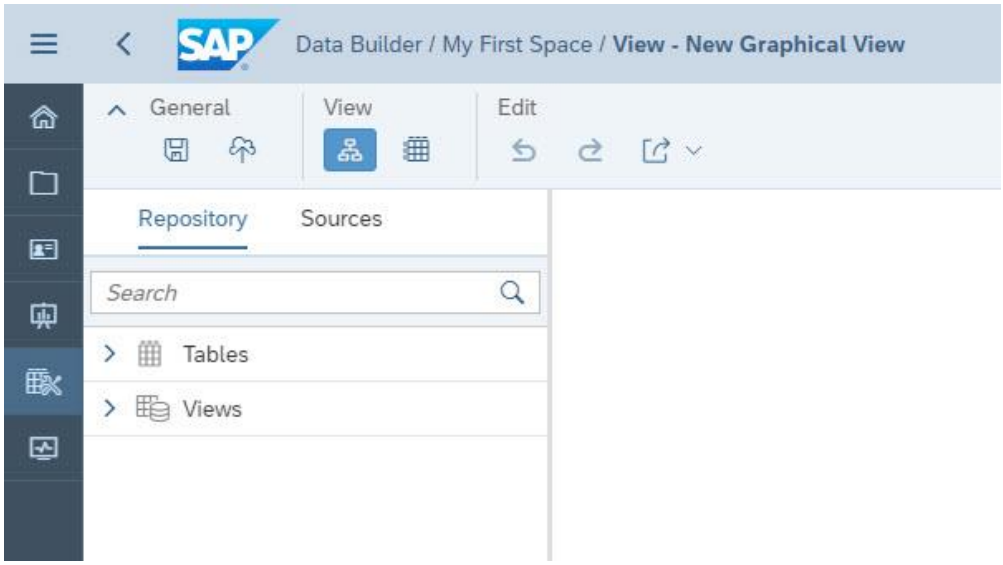
In the previous exercise we created the tables, and we created the Entity Relationship model. In the next steps we will now create our first dimension. Part of the steps of defining the dimension will also be to configure the geographic enrichment, so that we can leverage the Store Location later in SAP Analytics Cloud.

In the next steps we will create the new Dimension View based on our previously created tables

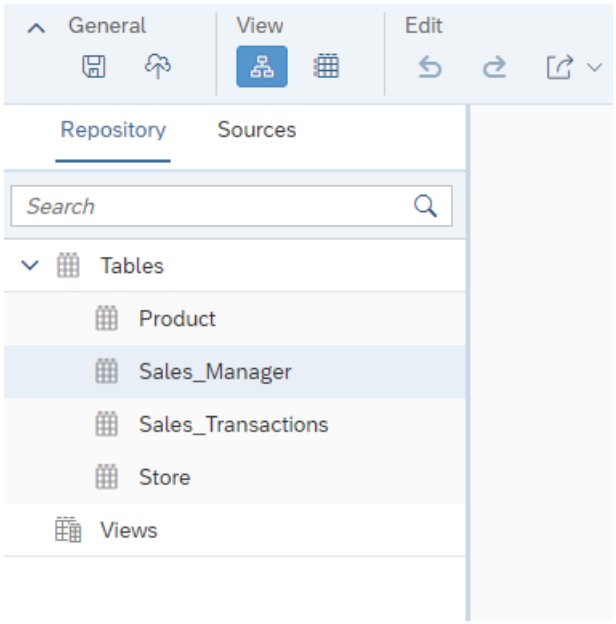
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.



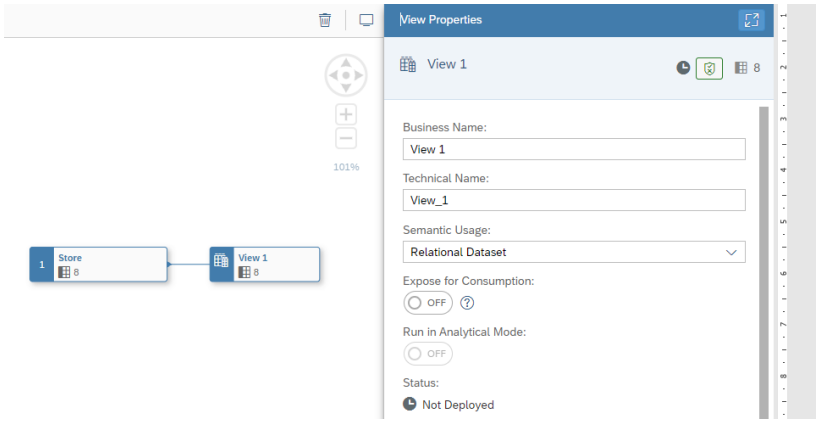
3. Click New Graphical View.



4. On the left-hand side you can decide between:
   - Repository: Here you have access to the local tables (imported data) and Views.
   - Sources: Here you have access to your connections and the remote tables.
5. Ensure you select the option Repository.
6. Open the list of Tables.

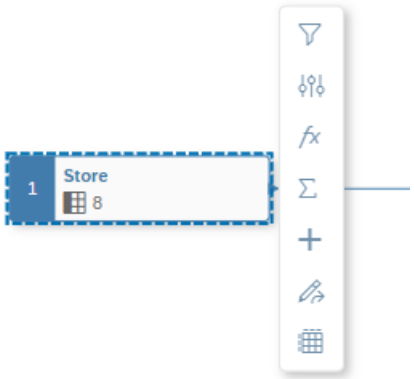


7. You are presented with the list of tables, which we created previously.
8. Drag and Drop the table Store to the canvas.

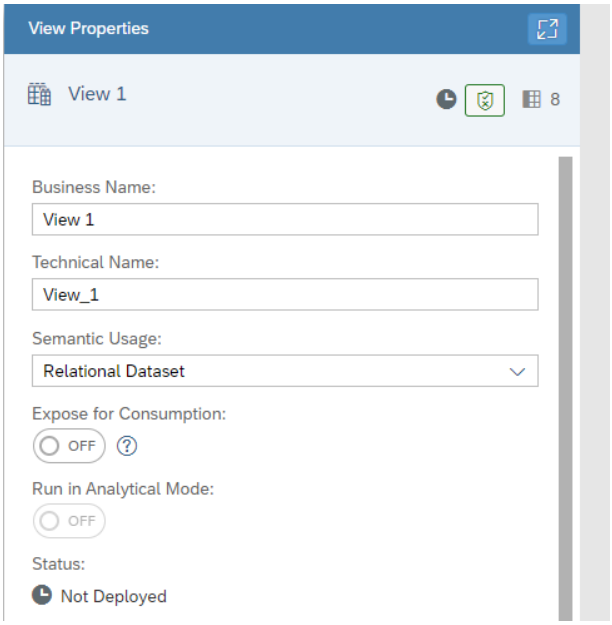


9. You automatically will – in addition to the table you dragged to the canvas – receive the output view as well, in our example called View 1.

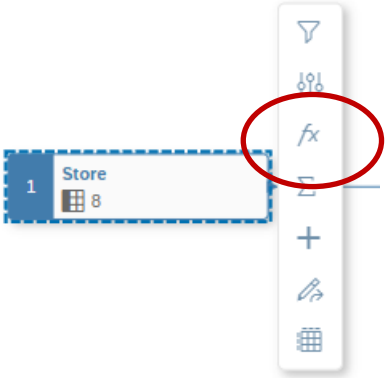
10. Now click on the table Store on the canvas.



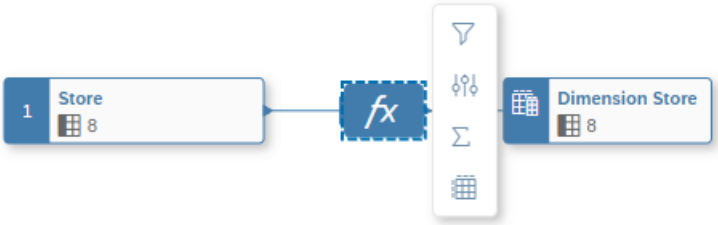
11. When you select the table on the canvas, you have the following options (top to bottom)
    - (1) You can add Filter on top of the Table.
    - (2) You can Rename or Hide columns as part of a Projection.
    - (3) You can add Calculated Columns.
    - (4) You can add an Aggregation View.
    - (5) You can add additional tables / views based on suggested joins, which are based on your Entity Relationship model.
    - (6) You can open the table in the editor.
    - (7) You can preview the data.
12. Now click on the output view that was added, in our example View 1.
13. Ensure the option Details (top right corner) is enabled.
14. Navigate to the Properties window.



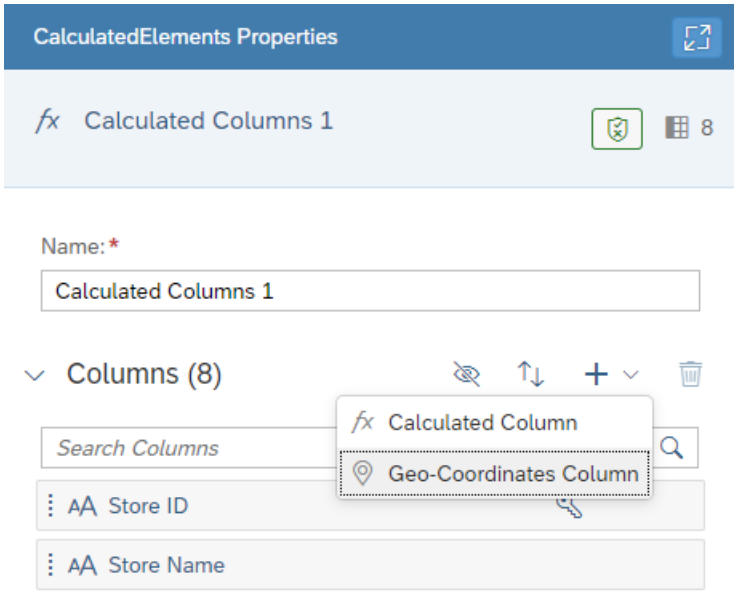
15. Here you can configure Properties for the final output of this view:
    - You can configure the Business Name as well as the Technical Name.
    - You can configure the Type of Dataset
    - You can decide if the View can be consumed or not.
    - You can choose which of the available Columns are shown or will be hidden.
    - You can define additional Associations.
    - You can provide details on the Business Purpose, which then will be available as part of the Business Catalog.
16. Enter
    - Dimension Store as Business Name.
17. The Technical Name will be generated based on the Business Name, but you can also change it.
18. Set the Semantic Usage to Dimension option.
19. Enable the option Expose for Consumption.
20. Now select the node for table Store on the canvas.



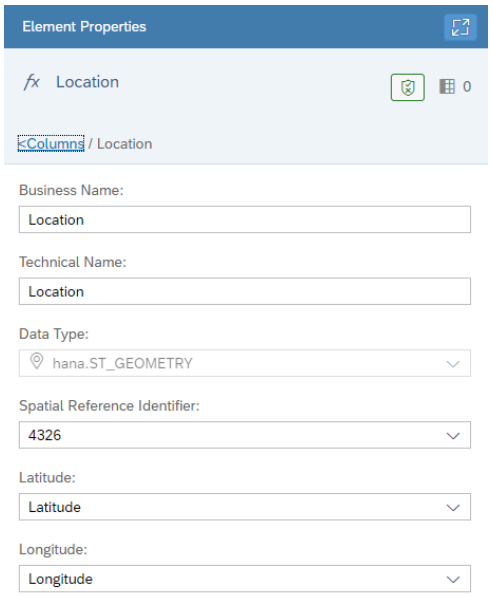
21. Use the option to add a new calculated column. This option also includes the ability to configure the geographic enrichment.
22. Now click on the new entry “fx” on the canvas.



23. Navigate to the properties on the right hand side.

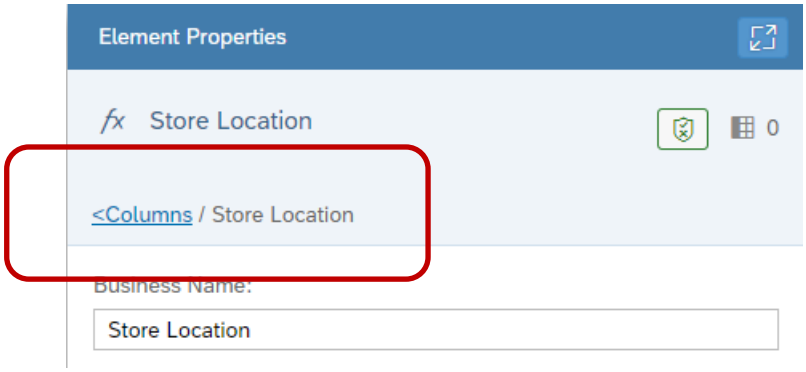


24. Click on the “+” sign and select the option Geo-Coordinates Column.

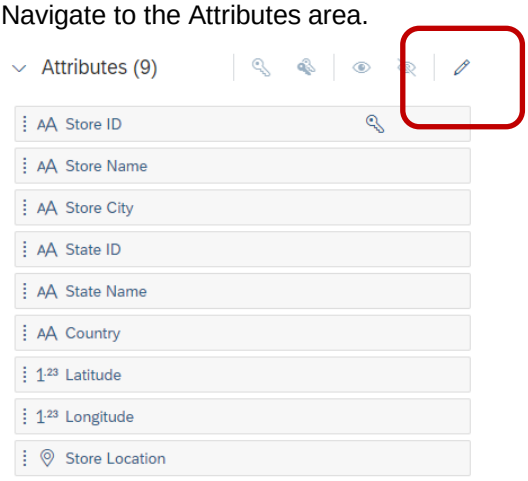


25. You are presented with the properties for the new column.
26. Configure the following details:
    - Business Name: Store Location
    - Technical Name: Store_Location
    - Latitude Latitude
    - Longitude Longitude

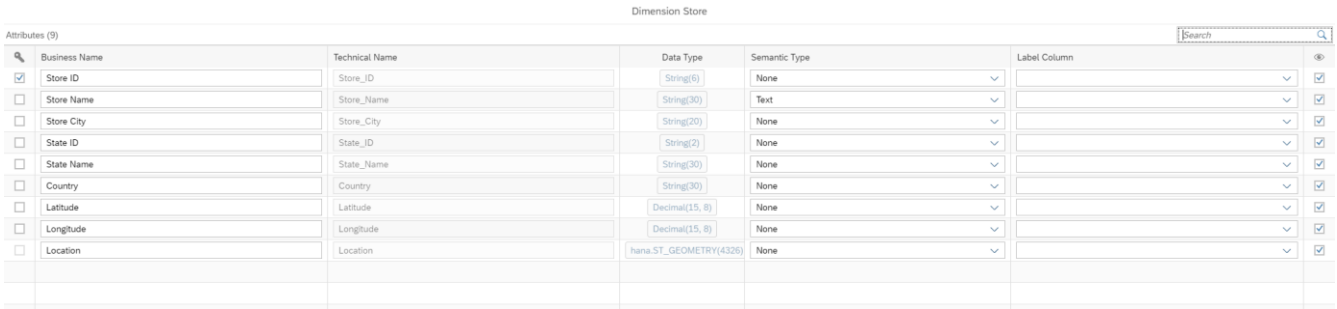
27. After you configured the details, click on the the “<Columns” option in the properties window to go back.



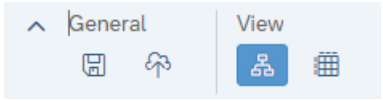
28. Select the final output node for the Dimension View.
29. Navigate to the properties on the right hand side.
30. Navigate to the Attributes area.



31. Use the pencil icon (top right area) to open the details for the Attributes.



32. Ensure the Semantic Type for the line item Store Name is set to Text.
33. Set the Label Column for the line item Store ID to be the Store Name.
34. Click Close.
35. In the toolbar in the General menu, use the option to Save your changes.



36. After saving your dimension View, ensure you deploy the view.
37. In the menu on the left hand side, click on the Home icon.

5.8 SAP Data Warehouse Cloud – Exercise 08: Data Layer - Creating the View

In the previous exercise we created the tables, and we created the dimension for Store, including the geographical enrichment. In the next steps we will now create our first view, combining the tables into an asset in SAP Data Warehouse Cloud, which then can be consumed in SAP Analytics Cloud.

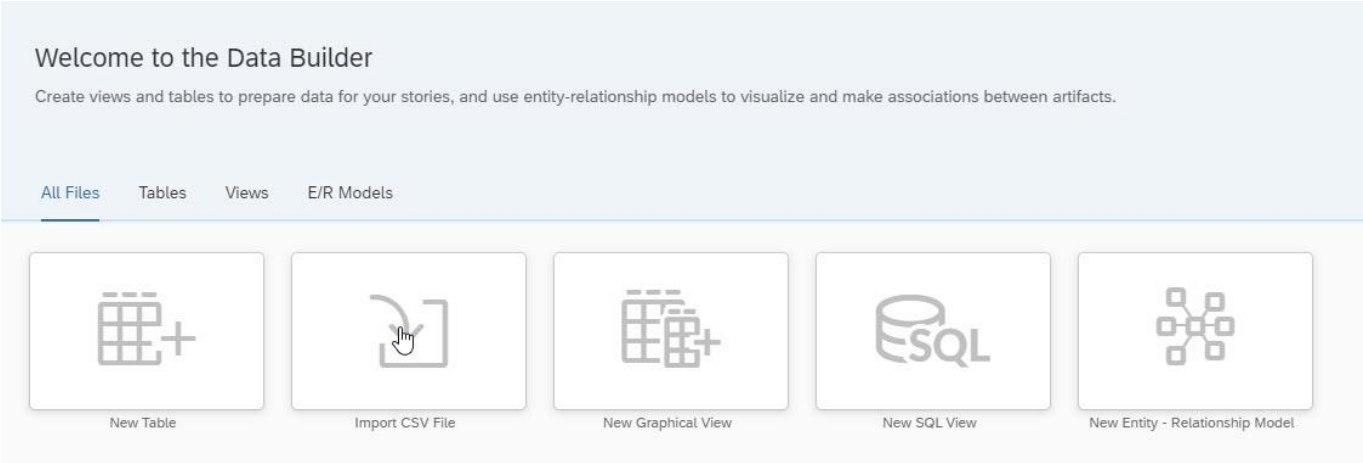
A View in SAP Data Warehouse Cloud provides you with several benefits:

- Graphical or script-based editor
- Define views on top of remote, replicated data sources, or tables
- Define unions and joins, rename and remove columns, add calculations and filters
- Create Analytical Datasets, Dimensions or Relational Datasets
- Create Parent-Child or Level-based hierarchies in Dimension views
- Define measures & attributes in Analytical Datasets
- In the Graphical View Builder, you can compute and display the corresponding SQL Statement.

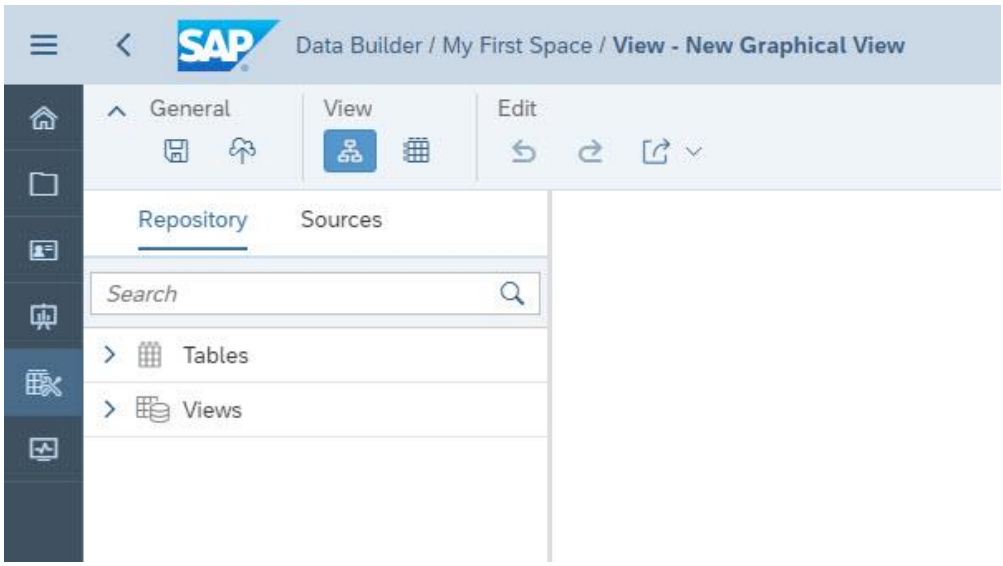
A View in SAP Data Warehouse Cloud allows you to leverage local tables, remote tables, or views and combine those into a new View. A View can also contain additional elements, such as filters and calculated columns and a view is consumable in SAP Analytics Cloud.

In the next steps we will create the new View based on our previously created tables

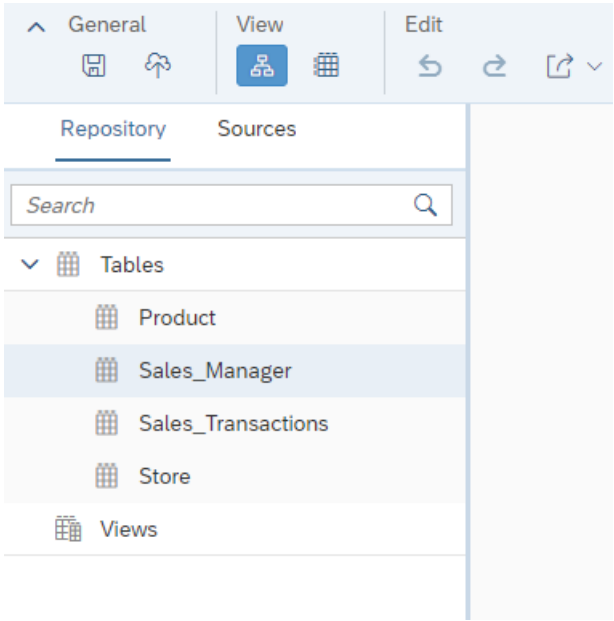
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.



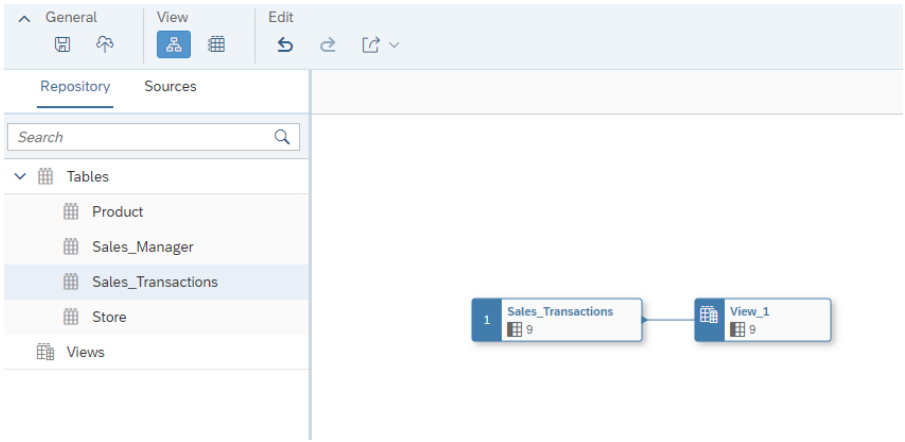
3. Click New Graphical View.



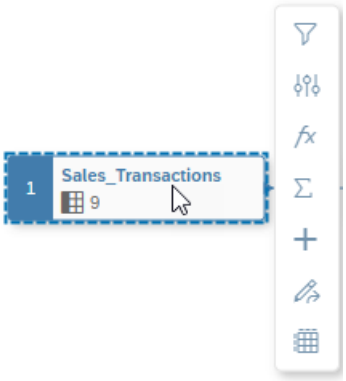
4. On the left-hand side you can decide between:
   - Repository: Here you have access to the local tables (imported data) and Views.
   - Sources: Here you have access to your connections and the remote tables.
5. Ensure you select the option Repository.
6. Open the list of Tables.



7. You are presented with the list of tables, which we created previously.
8. Drag and Drop the table Sales Transactions to the canvas.

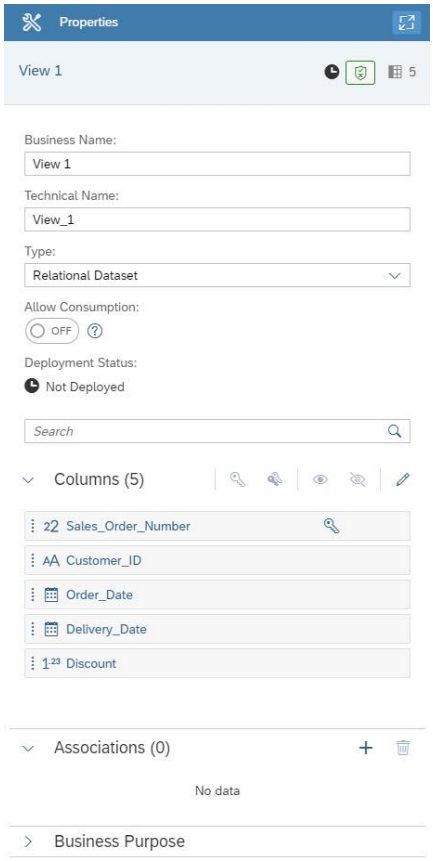


9. You automatically will – in addition to the table you dragged to the canvas – receive the output view as well, in our example called View 1.
10. Now click on the Sales Order Headers table on the canvas.

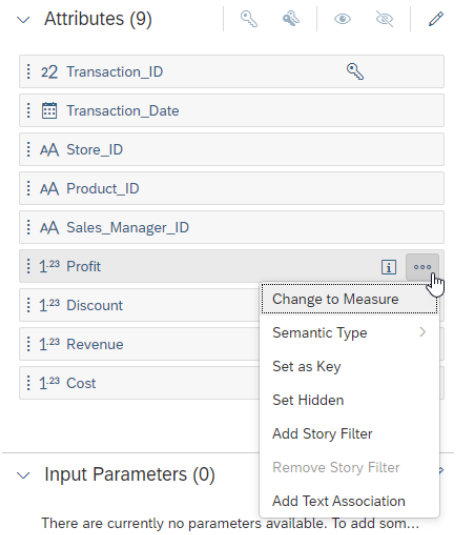


11. When you select the table on the canvas, you have the following options (top to bottom)
    - (1) You can add Filter on top of the Table.
    - (2) You can Rename or Hide columns as part of a Projection.
    - (3) You can add Calculated Columns.
    - (4) You can add an Aggregation View.
    - (5) You can add additional tables / views based on suggested joins, which are based on your Entity Relationship model.
    - (6) You can open the table in the editor.
    - (7) You can preview the data.
12. Now click on the output view that was added, in our example View 1.
13. Ensure the option Details (top right corner) is enabled.

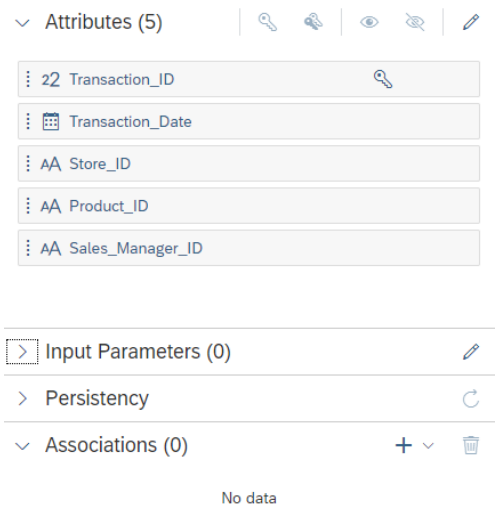
14. Navigate to the Properties window.



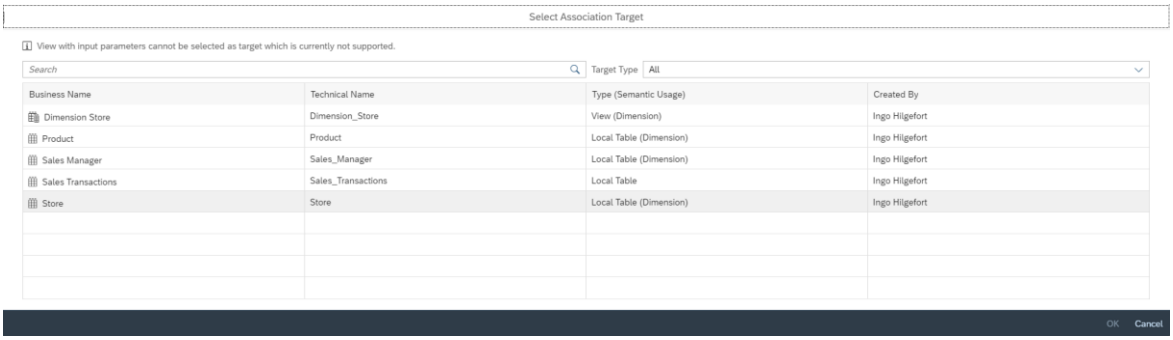
15. Here you can configure Properties for the final output:
    - You can configure the Business Name as well as the Technical Name.
    - You can configure the Type of Dataset
    - You can decide if the View can be consumed or not.
    - You can choose which of the available Columns are shown or will be hidden.
    - You can define additional Associations.
    - You can provide details on the Business Purpose, which then will be available as part of the Business Catalog.
16. Enter Sales View – Analytical Dataset as Business Name.
17. The Technical Name will be generated based on the Business Name, but you can also change it.
18. Set the semantic Usage to the Analytical Dataset option.
19. Enable the option Expose for Consumption.
20. In the panel on the right hand side, scroll down to the Attributes section.
21. Now open the context menu for the Attribute Profit.



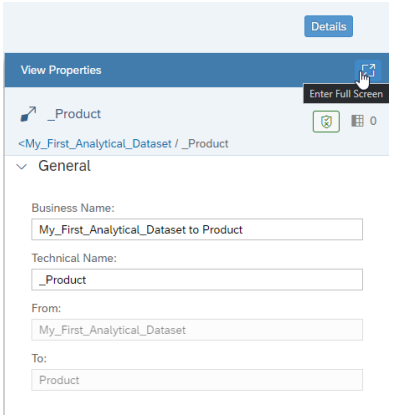
22. Select the option Change to Measure.
23. Repeat the steps for the Attributes Discount, Revenue, and Cost.
24. Now ensure you select the final output node called Sales View – Analytical Dataset.
25. Navigate to the Details on the right-hand side.
26. Scroll down to the Associations.



27. Click the “+” sign to add a new Association.
28. Select the option Association.

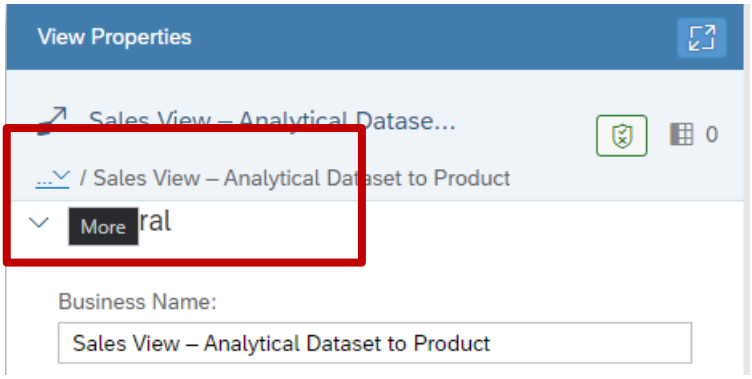


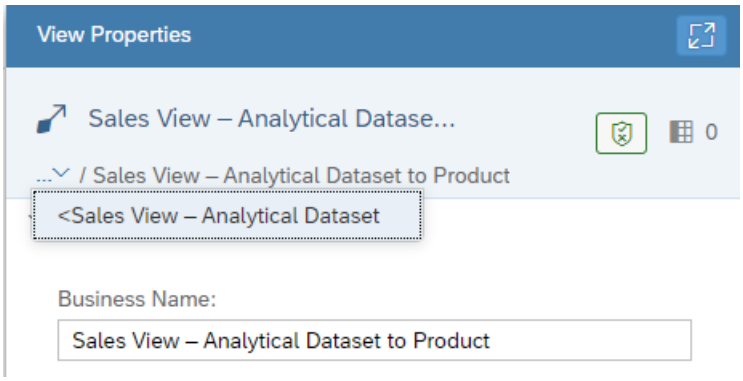
29. You are being presented with the list of Tables and Views from your Space.
30. Select the entry for dimension Product.
31. Click OK.
32. Click on the icon (top right corner) to expand the Details panel.



33. Ensure the Association is based on the column Product ID in both tables. In case the Association is not suggested or is defined on another column, you can delete the join and use a simple drag and drop motion to define a new one.

34. Click on the icon (top right corner) to collapse the Details panel.
35. In the Details panel now, click on the “More” option to navigate back to the main Properties window and select the analytical Dataset option.





36. In the Properties, navigate to the area Associations.
37. Click the “+” sign to add a second Association.
38. Select the option Association.
39. You are being presented with the list of Tables and Views from your Space.
40. Select the entry for dimension Store. Ensure to use the “Dimension Store” View that we created with the geographic enrichment, and not the local Table Store.
41. Click OK.
42. Click on the icon (top right corner) to expand the Details panel.

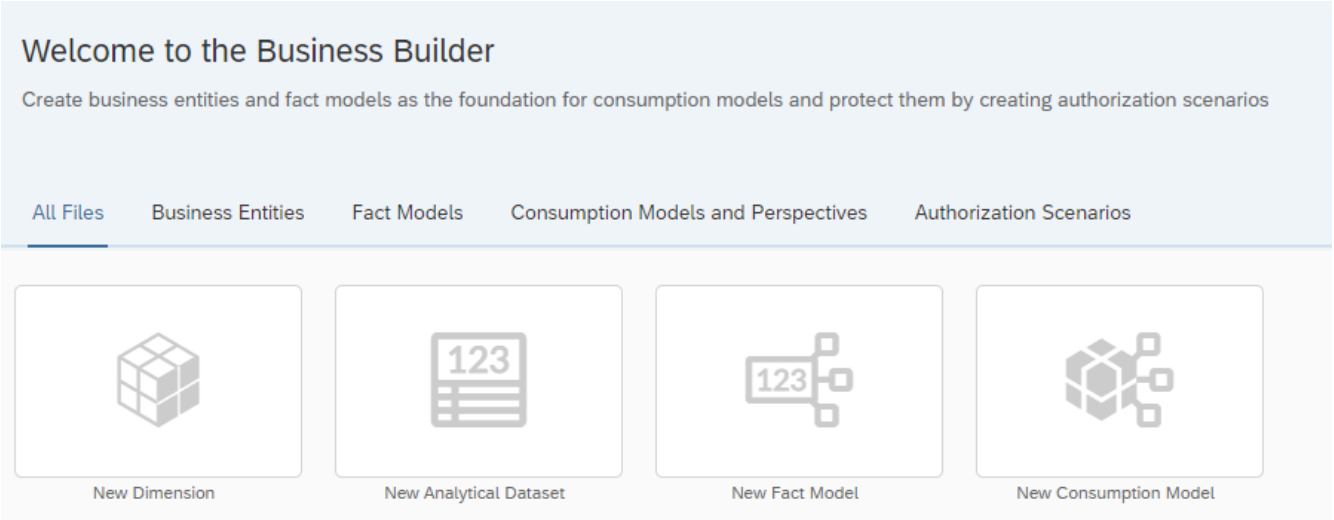
43. Ensure the Association is based on the column Store ID in both tables. In case the Association is not suggested or is defined on another column, you can delete the join and use a simple drag and drop motion to define a new one.
44. Click on the icon (top right corner) to collapse the Details panel.
45. In the Details panel now, click on the “More” option to navigate back to the main Properties window and select the analytical Dataset option.
46. Click the “+” sign to add a third Association.
47. Select the option Association.
48. You are being presented with the list of Tables and Views from your Space.
49. Select the entry for dimension Sales Manager.
50. Click OK.
51. Click on the icon (top right corner) to expand the Details panel.
52. Ensure the Association is based on the column Sales Manager ID in both tables. In case the Association is not suggested or is defined on another column, you can delete the join and use a simple drag and drop motion to define a new one.
53. Click on the icon (top right corner) to collapse the Details panel.
54. In the Details panel now, click on the “More” option to navigate back to the main Properties window and select the analytical Dataset option.
55. In the Properties, navigate to the area Associations.
56. Click the “+” sign to add a second Association.
57. Select the option Association.
58. You are being presented with the list of Tables and Views from your Space.
59. Select the entry for the Time Dimension – Day (View) – not the local table.
60. Click OK.
61. Click on the icon (top right corner) to expand the Details panel.
62. Ensure the Association is based on the columns Transaction Date and Date.
63. Click on the icon (top right corner) to collapse the Details panel.
64. In the Details panel now, click on the “More” option to navigate back to the main Properties window and select the analytical Dataset option.
65. Save your View.
66. You will be asked to confirm the Business Name and Technical Name.
67. Click Save.
68. Deploy your View.

You just created and deployed your first Analytical Dataset, which can now be consumed with SAP Analytics Cloud.

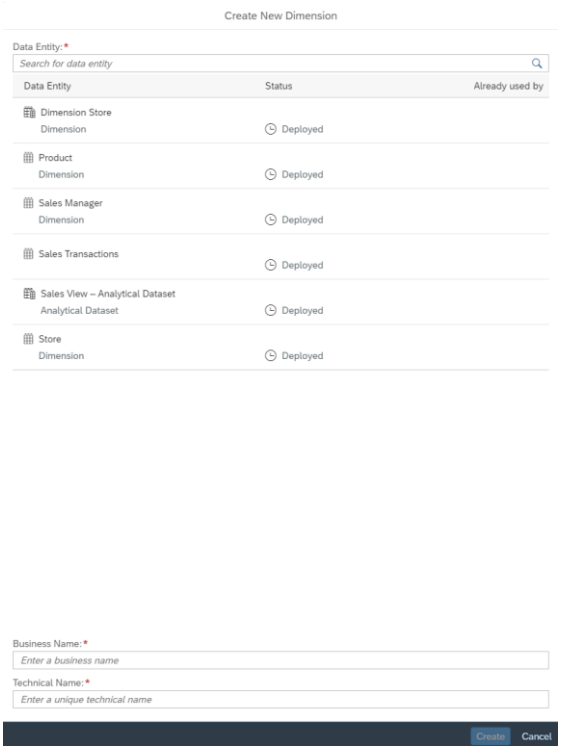
5.9 SAP Data Warehouse Cloud – Exercise 09: Business Layer - Dimensions

In the next set of steps, we will first setup the business entities and then create the consumption model, which then will be used by SAP Analytics Cloud for our story.

1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Business Builder on the left-hand side.
3. In case you are being asked, select the Space you created previously.

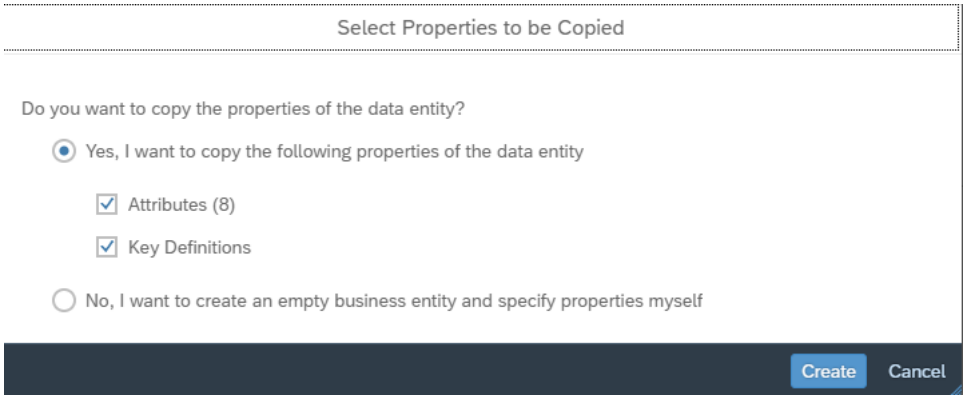


4. Select the option Business Entities.
5. Select the option New Dimensions.

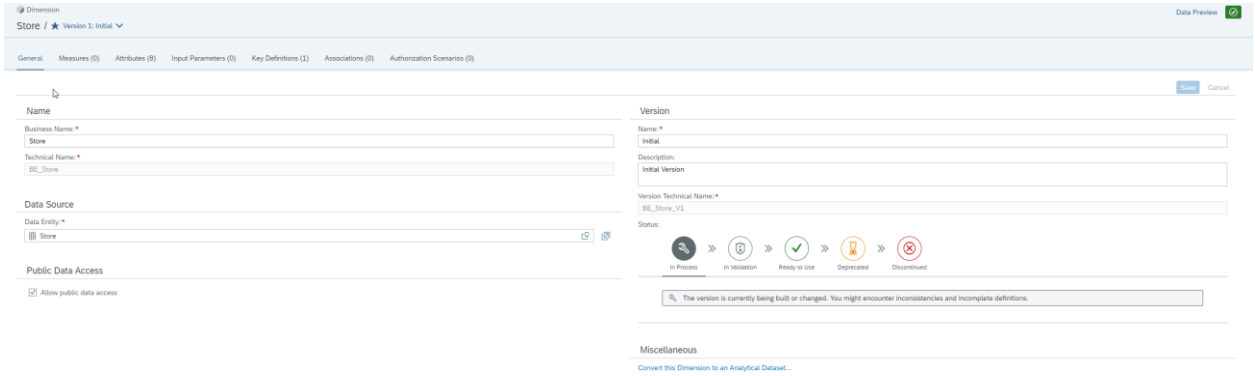


6. Select the entry for the Store dimension. Ensure to use the Dimension Store View and not the local table Store.
7. Business Name and Technical Name will be suggested.
8. Click Create.

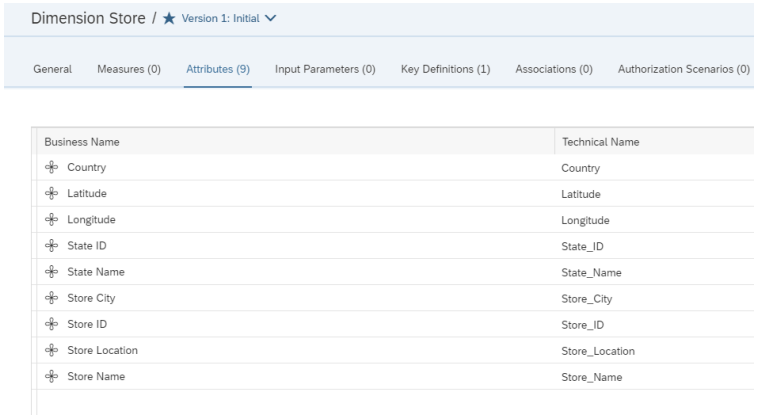
9. You are then being asked, if you would like to leverage the existing Attributes and Key Definitions.



10. Ensure the option “Yes” is enabled.
11. Ensure the option Attributes is enabled.
12. Ensure the option Key Definitions is enabled.
13. Click Create.

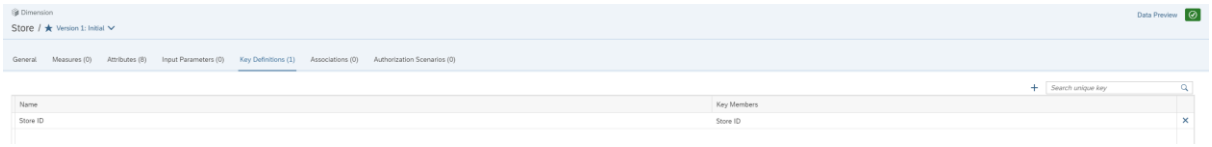


14. Ensure the Business Name is set to Dimension Store.
15. Ensure the option Allow public data access is enabled.
16. Navigate to the tab Attributes.
17. You should see the following Attributes, which have been leveraged from our previous definition of the dimension Store.

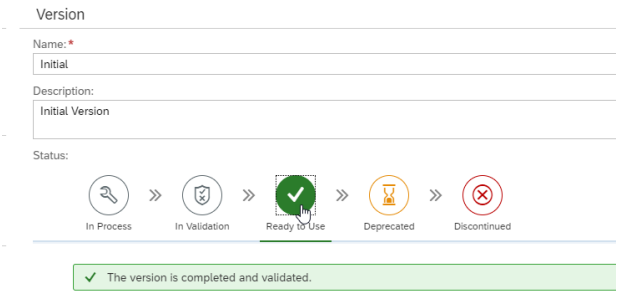


18. Navigate to the tab Key Definitions.

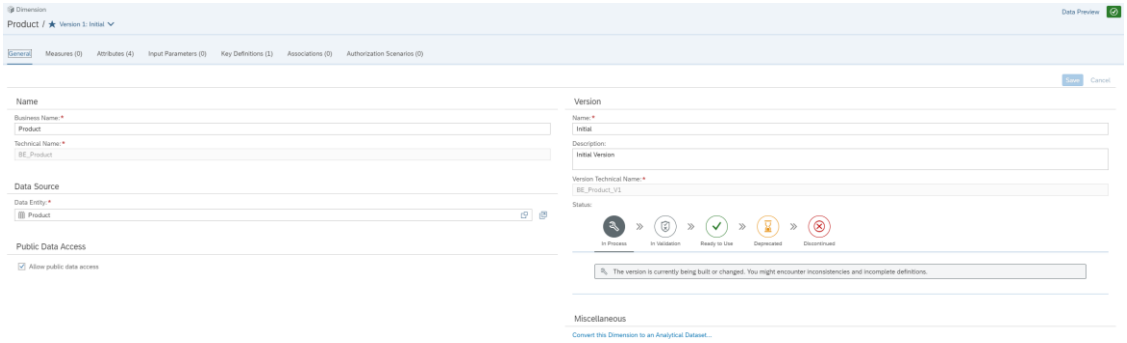
19. You should see the Store ID being listed as Key Definition.



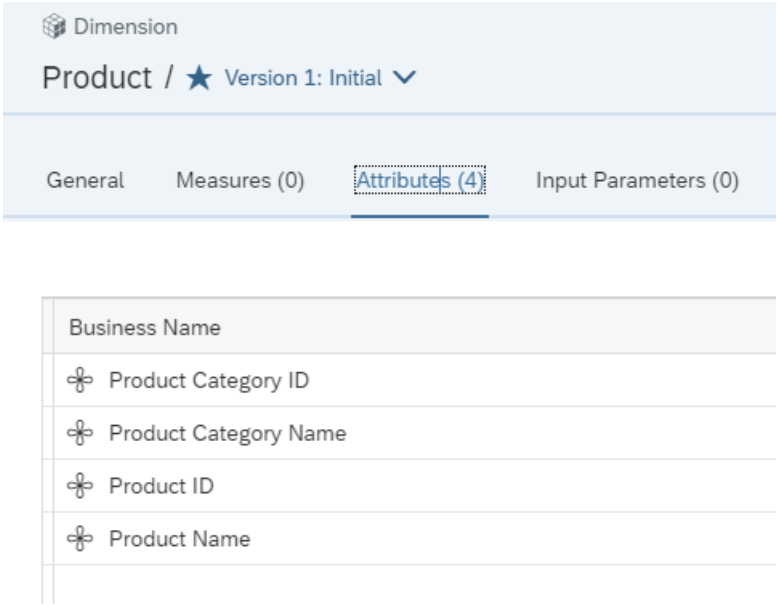
20. Navigate back to the tab General.
21. Set the Status to Ready to Use.



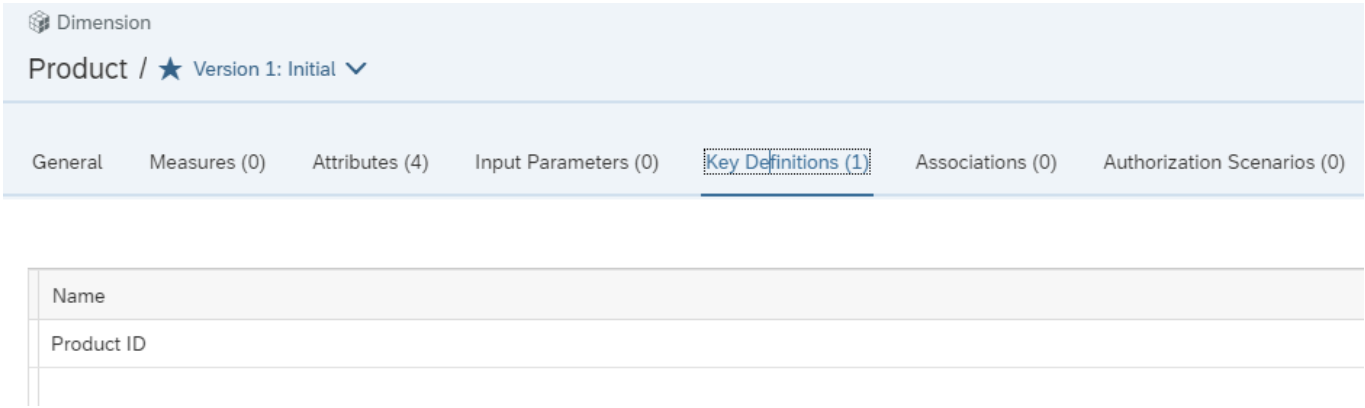
22. Click Save (top right).
23. Select the menu option Business Builder on the left-hand side.
24. In case you are being asked, select the Space you created previously.
25. Select the option Business Entities.
26. Click New Dimension.
27. Select the entry Product.
28. For the Business Name enter Product.
29. For the Technical Name use the suggested name BE_Product.
30. Click Create.
31. You are then being asked, if you would like to leverage the existing Attributes and Key Definitions.
32. Ensure the option “Yes” is enabled.
33. Ensure the option Attributes is enabled.
34. Ensure the option Key Definitions is enabled.
35. Click Create.



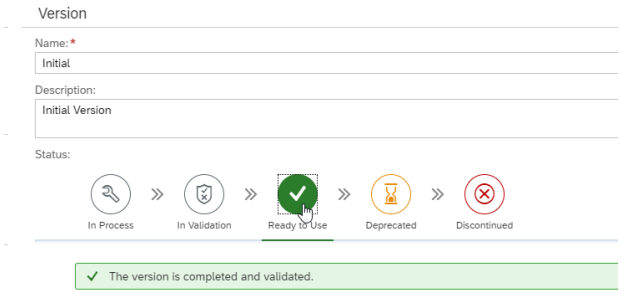
36. Ensure the Business Name is set to Product.
37. Ensure the option Allow public data access is enabled.
38. Navigate to the tab Attributes.
39. You should see the following Attributes, which have been leveraged from our previous definition of the dimension Store.



40. Navigate to the tab Key Definitions.
41. You should see the Product ID being listed as Key Definition.

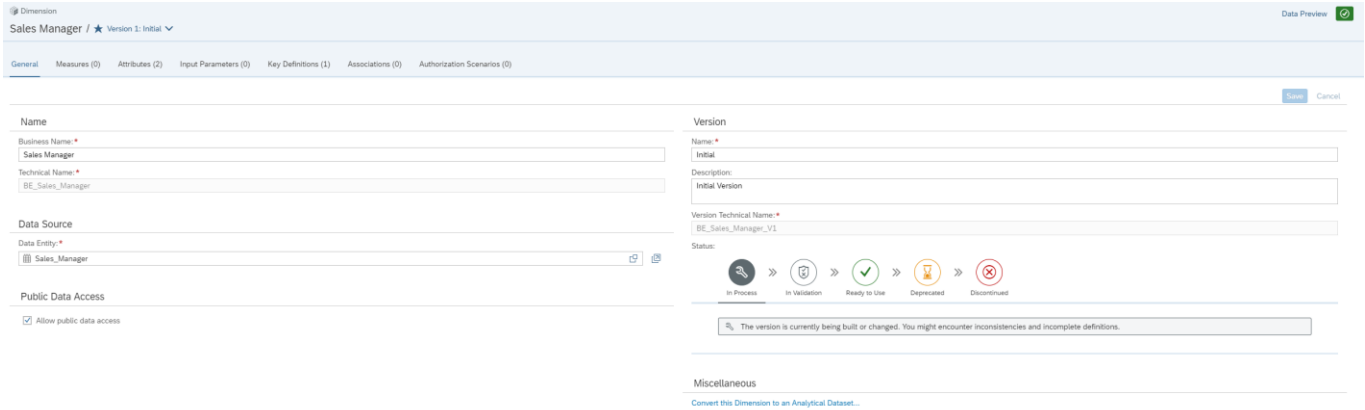


42. Navigate back to the tab General.
43. Set the Status to Ready to Use.

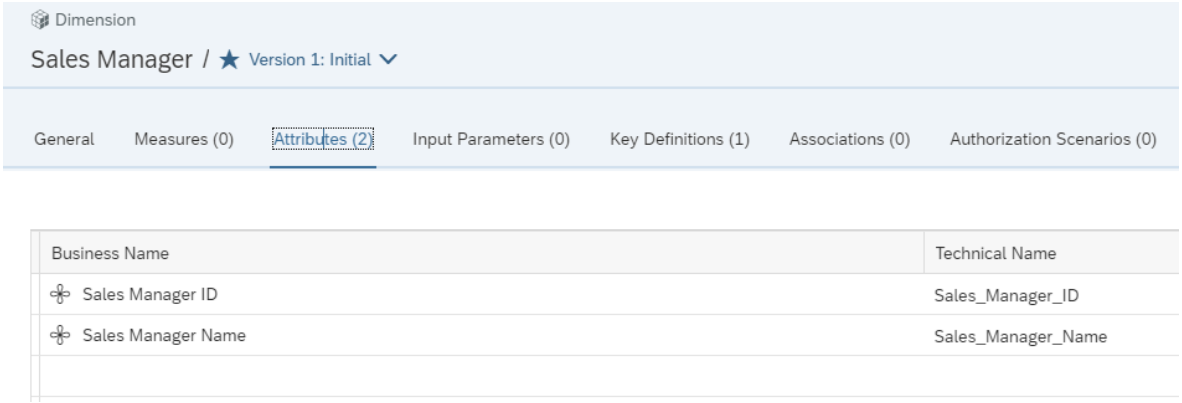


44. Click Save (top right).
45. Select the menu option Business Builder on the left-hand side.
46. In case you are being asked, select the Space you created previously.
47. Select the option Business Entities.
48. Click New Dimension.
49. Select the entry Sales Manager.
50. For the Business Name enter Sales Manager.

51. For the Technical Name use the suggested name BE_Sales_Manager.
52. Click Create.
53. You are then being asked, if you would like to leverage the existing Attributes and Key Definitions.
54. Ensure the option “Yes” is enabled.
55. Ensure the option Attributes is enabled.
56. Ensure the option Key Definitions is enabled.
57. Click Create.



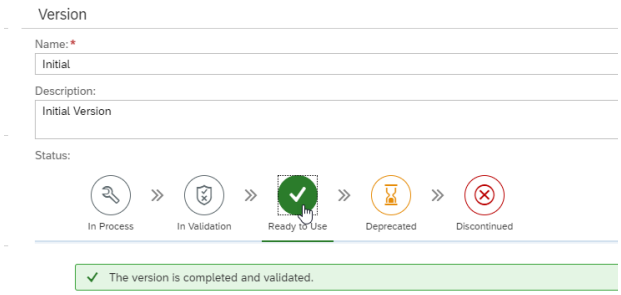
58. Ensure the Business Name is set to Sales Manager.
59. Ensure the option Allow public data access is enabled.
60. Navigate to the tab Attributes.



61. You should see the above shown Attributes.
62. Navigate to the tab Key Definitions.

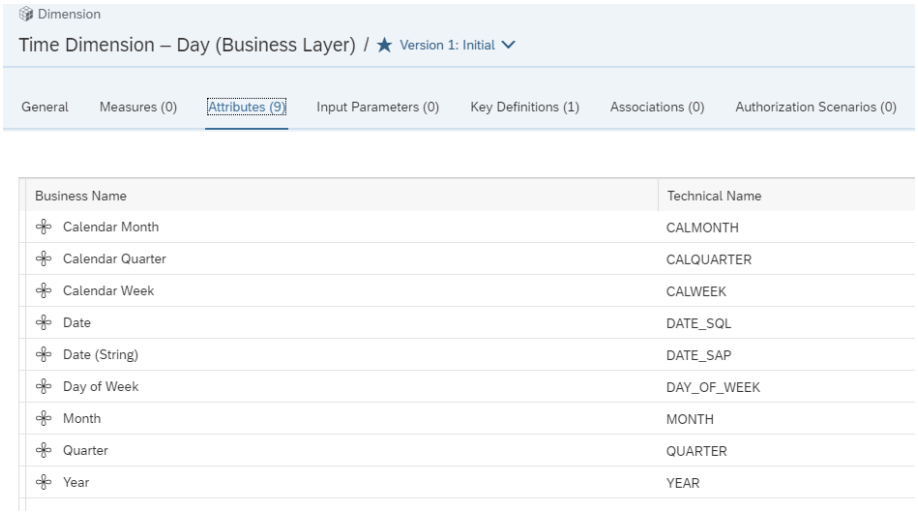
63. You should see the Sales Manager ID being listed as Key Definition.

64. Navigate back to the tab General.
65. Set the Status to Ready to Use.



66. Click Save (top right).
67. Select the menu option Business Builder on the left-hand side.
68. In case you are being asked, select the Space you created previously.
69. Select the option Business Entities.
70. Click New Dimension.
71. Select the entry Time Dimension - Day.
72. For the Business Name enter Time Dimension – Day (Business Layer).
73. For the Technical Name use the suggested name BE_SAP_TIME_VIEW_DIMENSION_DAY.
74. Click Create.
75. You are then being asked, if you would like to leverage the existing Attributes and Key Definitions.
76. Ensure the option “Yes” is enabled.
77. Ensure the option Attributes is enabled.
78. Ensure the option Key Definitions is enabled.
79. Click Create.
80. Ensure the Business Name is set to Time Dimension – Day (Business Layer).
81. Ensure the option Allow public data access is enabled.

82. Navigate to the tab Attributes.

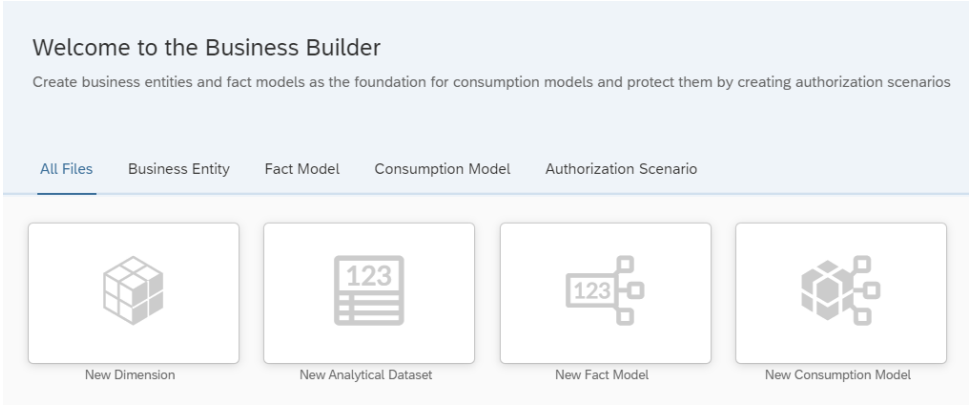


83. You should see the above shown Attributes.
84. Navigate to the tab Key Definitions.
85. You should see the Date being listed as Key Definition.
86. Navigate back to the tab General.
87. Set the Status to Ready to Use.
88. Click Save

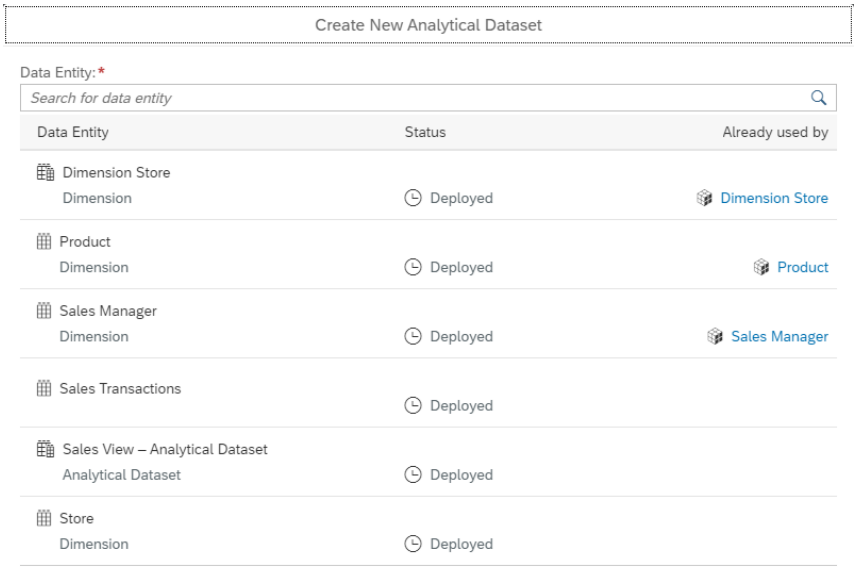
5.10 SAP Data Warehouse Cloud – Exercise 10: Business Layer - Analytical Data Set

At this point we created the dimensions and will now create the analytical data set as part of our Business Layer and then associate the dimension with the data set.

1. Select the menu option Business Builder on the left-hand side.
2. In case you are being asked, select the Space you created previously.

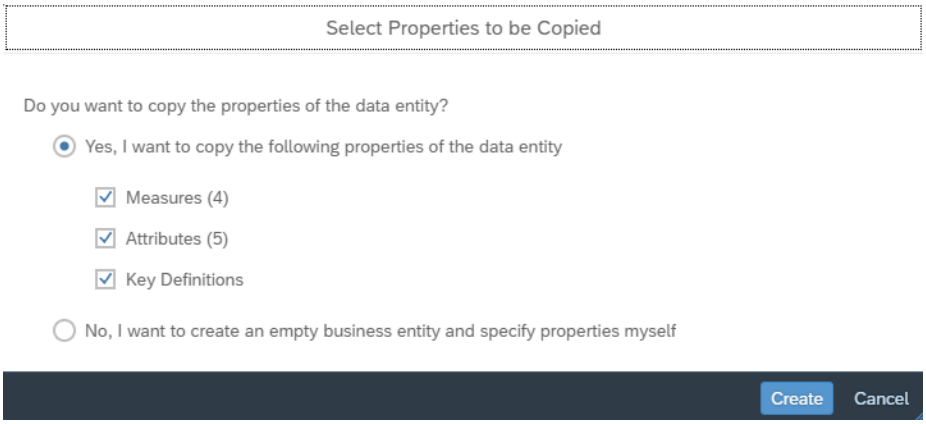


3. Select the option Business Entities.
4. Select the option New Analytical Dataset

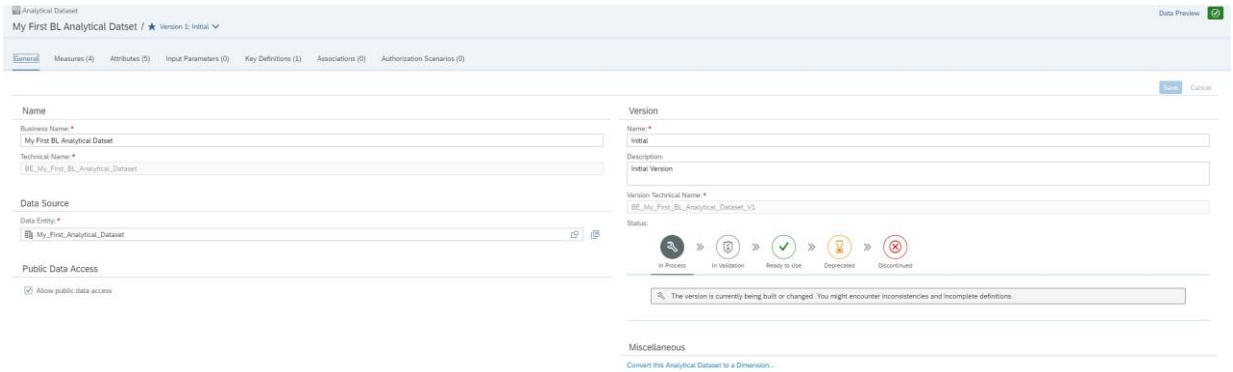


5. Select the entry Sales View - Analytical Dataset that we created previously.
6. For the Business Name enter - Sales View - Analytical Dataset (Business Layer)
7. The Technical Name will be suggested.
8. Click Create.

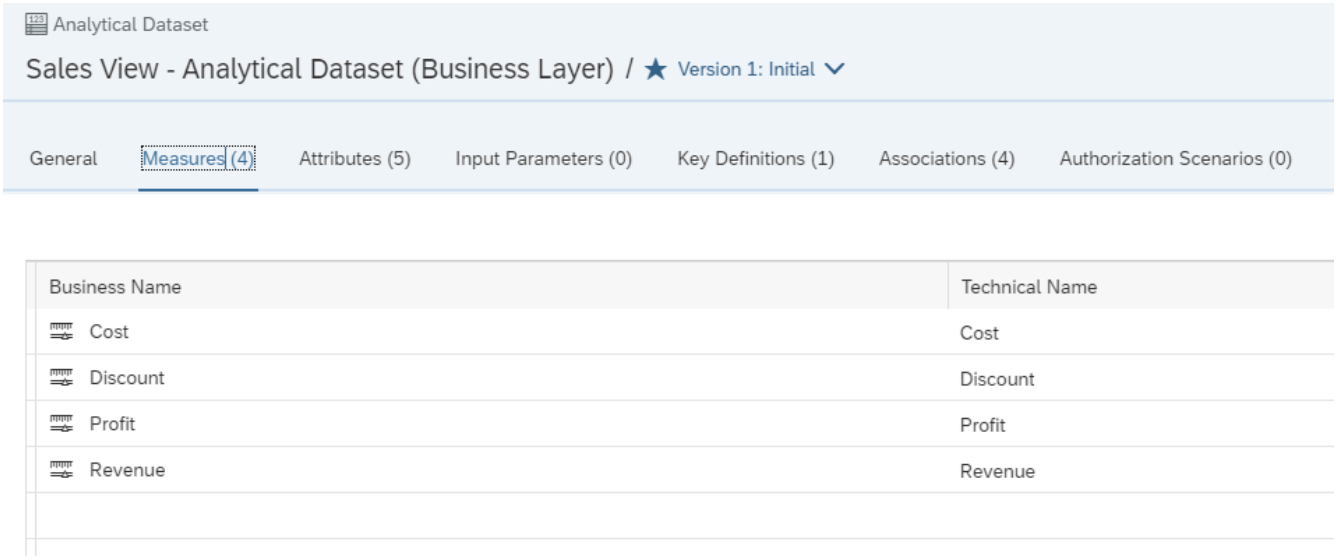
9. When being asked, select the option “Yes, I want to copy the following properties of the data entity”.



10. Ensure the options for Measures, Attributes, and Key Definitions are enabled.
11. Click Create.

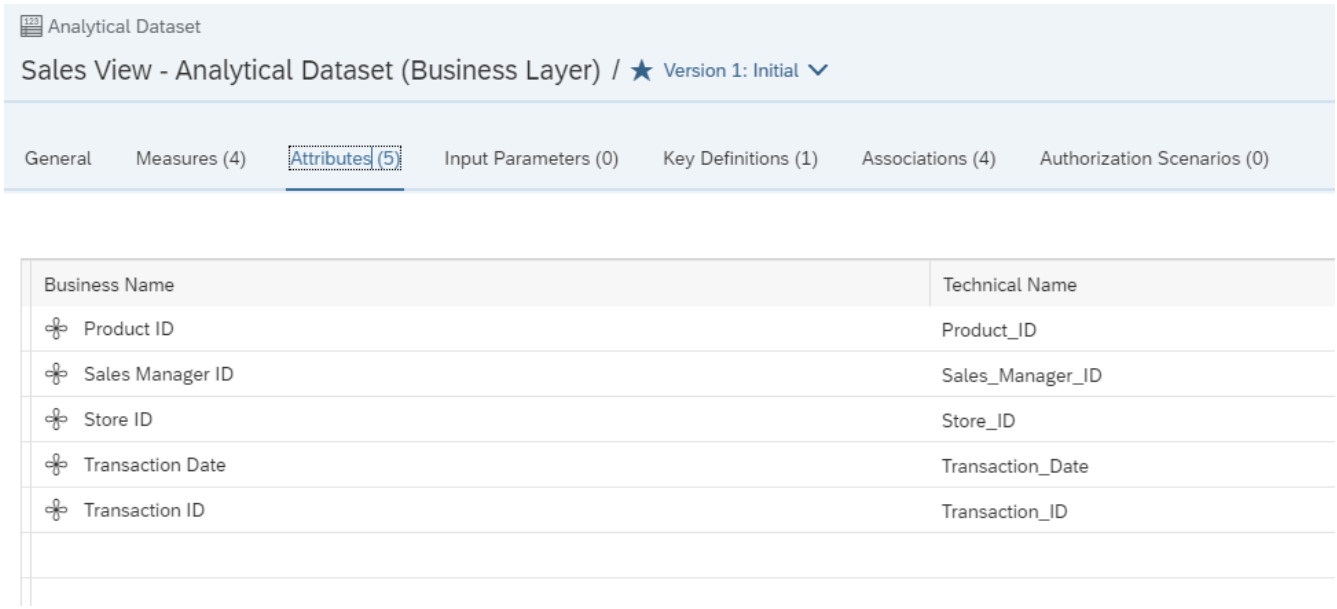


12. Ensure the Business Name is set to Sales View - Analytical Dataset (Business Layer).
13. Ensure the option Allow public data access is enabled.
14. Navigate to the tab Measures.
15. You should see all previously configured measures based on the definition from our Analytical Dataset.

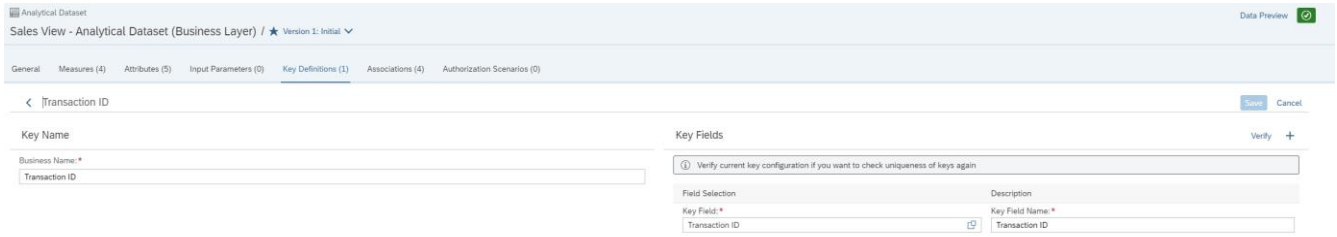


16. Navigate to the tab Attributes.

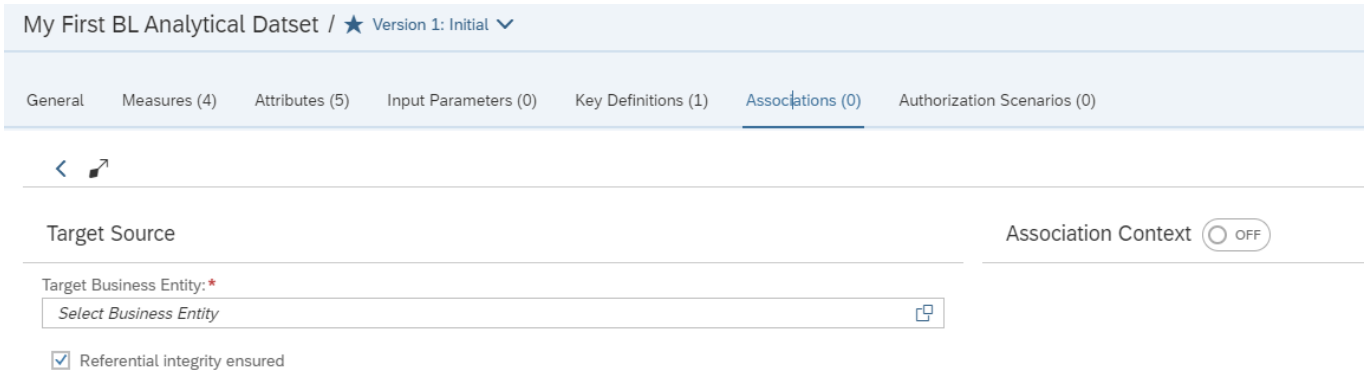
17. You should see the complete list of Attributes we defined previously in the Analytical Dataset.



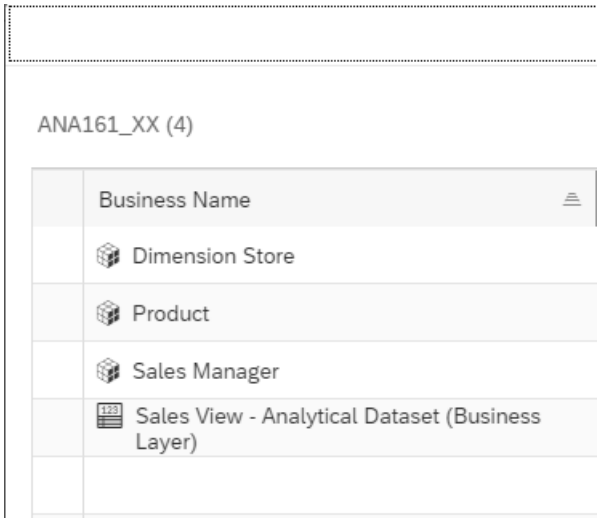
18. Navigate to the tab Key Definitions.
19. Click on the entry that is listed as Key Definition.



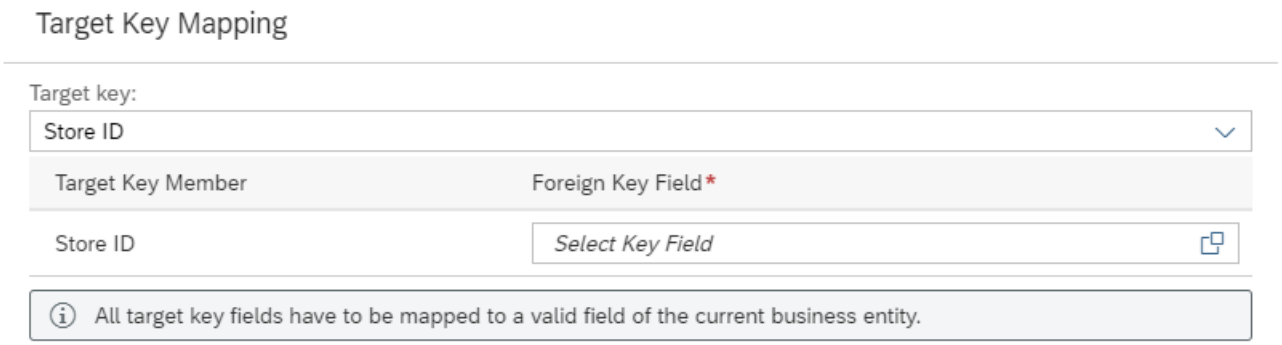
20. You should see the Transaction ID being listed as Key.
21. Navigate to the tab Associations.
22. Click the “+” sign in the top right to add a new Association.



23. Open the list of Target Business Entities.



24. Select the entry Dimension Store.
25. Click Apply.



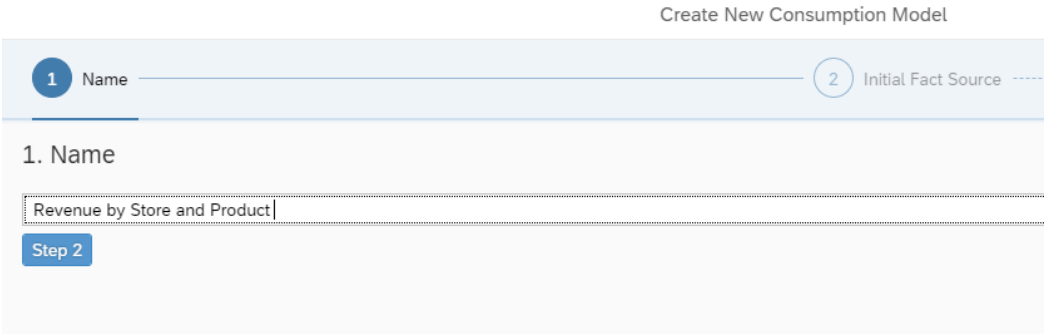
26. In the area Target Key Mapping, open the list of fields for the Foreign Key Field.
27. Select the column Store ID from your Analytical Dataset.
28. Click Save (top right).
29. Click the “+” sign to add another Association.
30. Open the list of Target Business Entities.
31. Select the entry Product.
32. Click Apply.
33. In the area Target Key Mapping, open the list of fields for the Foreign Key Field.
34. Select the column Product ID from your Analytical Dataset.
35. Click Save (top right).
36. Click the “+” sign to add another Association.
37. Open the list of Target Business Entities.
38. Select the entry Sales Manager.
39. Click Apply.
40. In the area Target Key Mapping, open the list of fields for the Foreign Key Field.
41. Select the column Sales Manager ID from your Analytical Dataset.
42. Click Save (top right).
43. Click the “+” sign to add another Association.

44. Open the list of Target Business Entities.
45. Select the entry Time Dimension – Day (Business Layer).
46. Click Apply.
47. In the area Target Key Mapping, open the list of fields for the Foreign Key Field.
48. Select the column Transaction Date from your Analytical Dataset.
49. Click Save (top right).
50. Navigate back to the tab General.
51. Set the Status to Ready to Use.
52. Click Save.
53. Select the Home menu.

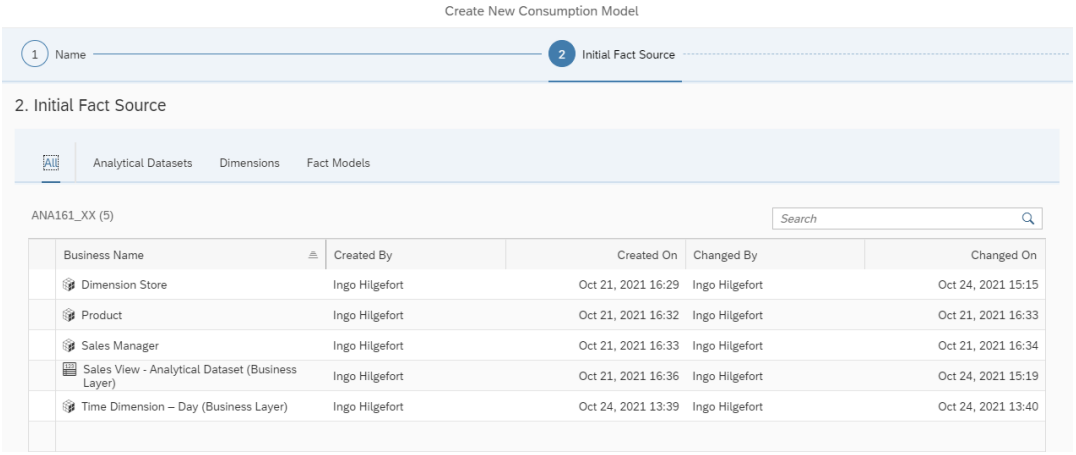
5.11 SAP Data Warehouse Cloud – Exercises 11: Business Layer - Consumption Layer

In the previous steps we created the dimensions and the analytical data set in the Business Layer. In this step we will create the consumption layer for our analytical story.

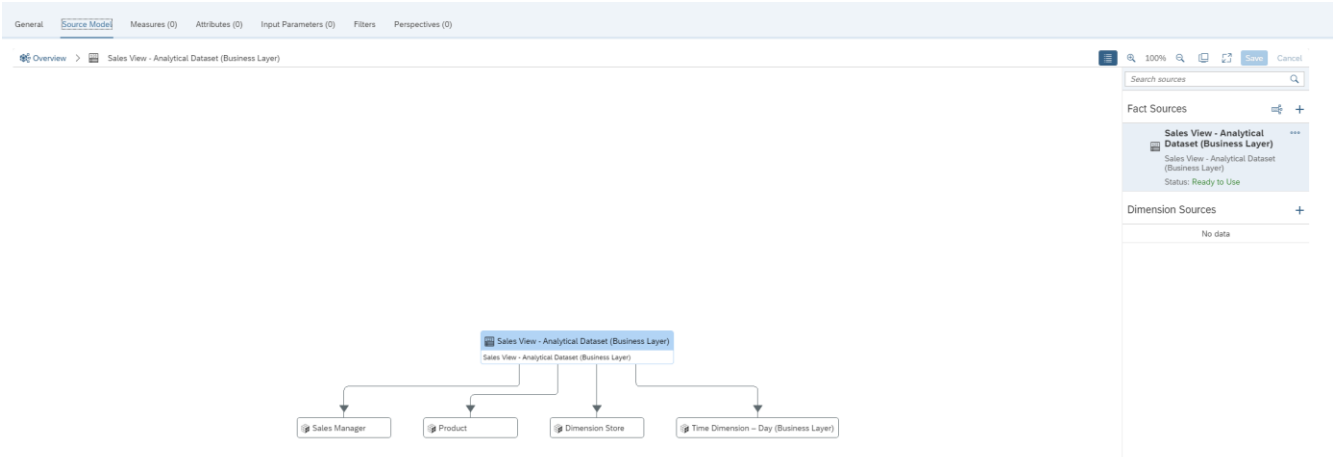
1. Select the menu option Business Builder on the left-hand side.
2. In case you are being asked, select the Space you created previously.
3. Select the category Consumption Models and Perspectives.
4. Select the option New Consumption Model.
5. Enter Revenue by Store and Product as Name.



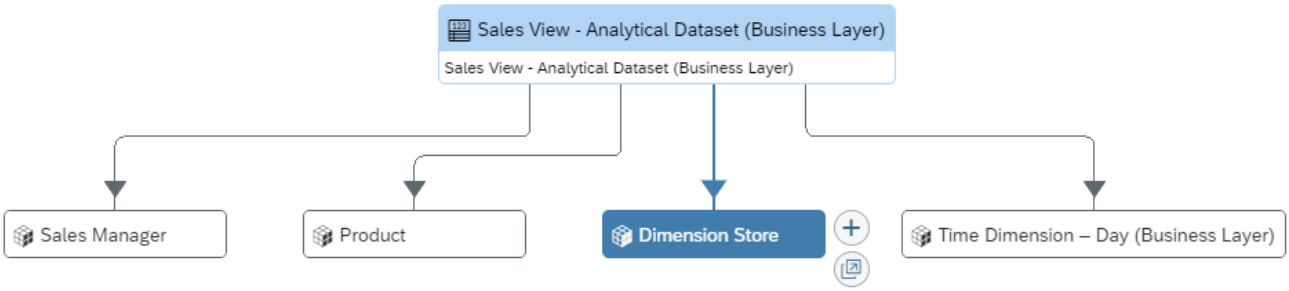
6. Click Step 2.



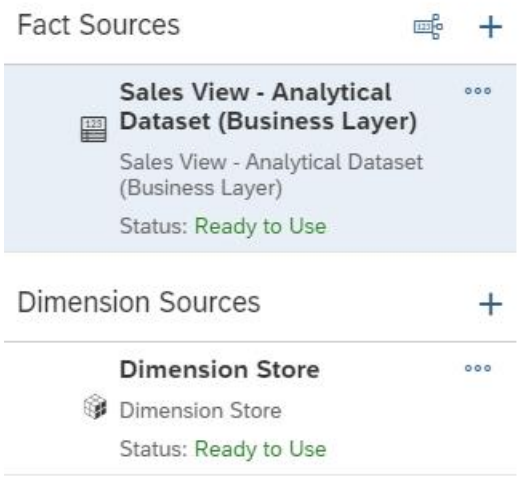
7. Select the entry Sales View – Analytical Dataset (Business Layer).
8. Click Create.



9. Select the object for Dimension Store on the canvas.

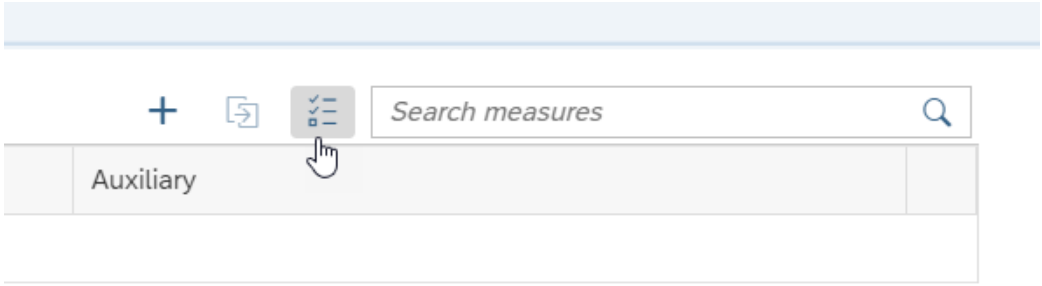


10. Use the “+” icon for the option Add Source Context.
11. For the Source Alias option, enter Dimension Store.
12. Click Create.

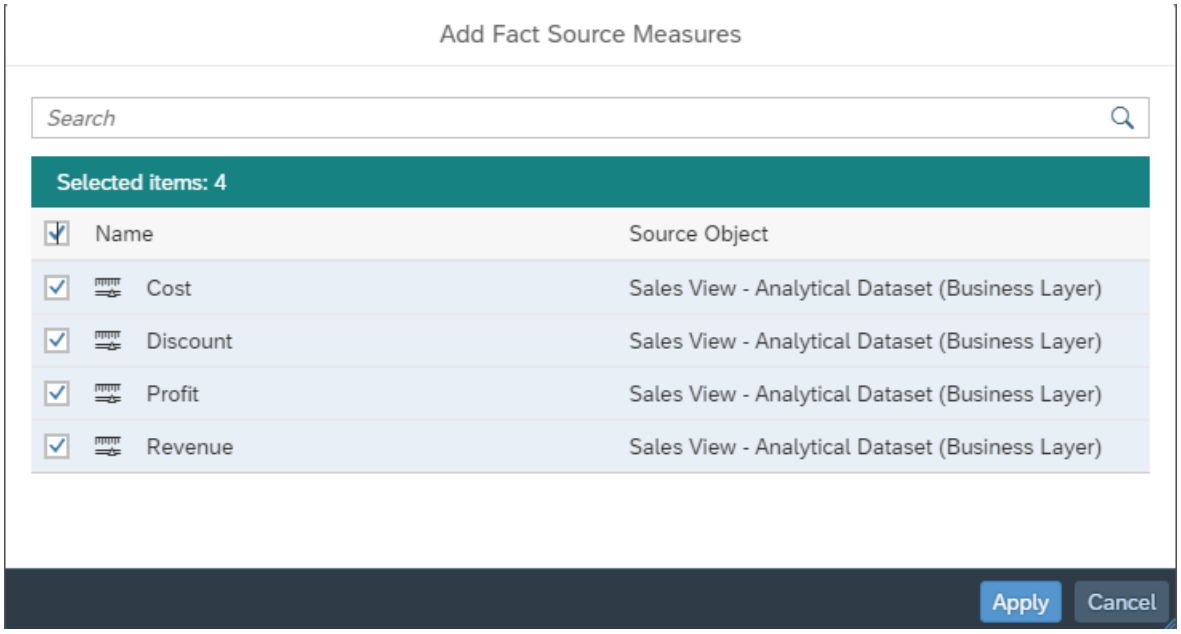


13. On the right-hand side you should now see the dimension Store being listed under the category Dimension Sources.
14. Now select the object for dimension Product on the canvas.
15. Use the “+” icon for the option Add Source Context.
16. For the Source Alias option, enter Product.
17. Click Create.
18. On the right-hand side you should now see dimension Product being listed under the category Dimension Sources.
19. Now select the object for dimension Sales Manager on the canvas.
20. Use the “+” icon for the option Add Source Context.
21. For the Source Alias option, enter Sales Manager.
22. Click Create.
23. On the right-hand side you should now see the dimension Sales Manager being listed under the category Dimension Sources.
24. Now select the object for dimension Time Dimension – Day (Business Layer) on the canvas.
25. Use the “+” icon for the option Add Source Context.
26. For the Source Alias option, enter Time Dimension – Day (Business Layer)
27. Click Create.

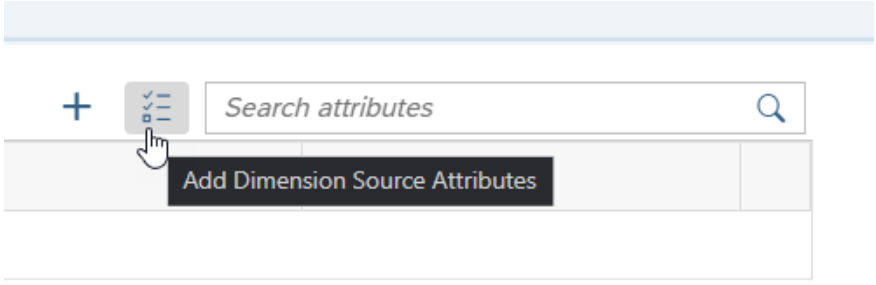
28. On the right-hand side you should now see dimension Time Dimension – Day (Business Layer) being listed under the category Dimension Sources.
29. Navigate to the tab General.
30. Enable the option Allow public data access.
31. Click Save (top right).
32. Navigate to the tab Measures.
33. Select the option Add Fact Source Measures.



34. Select all measures.

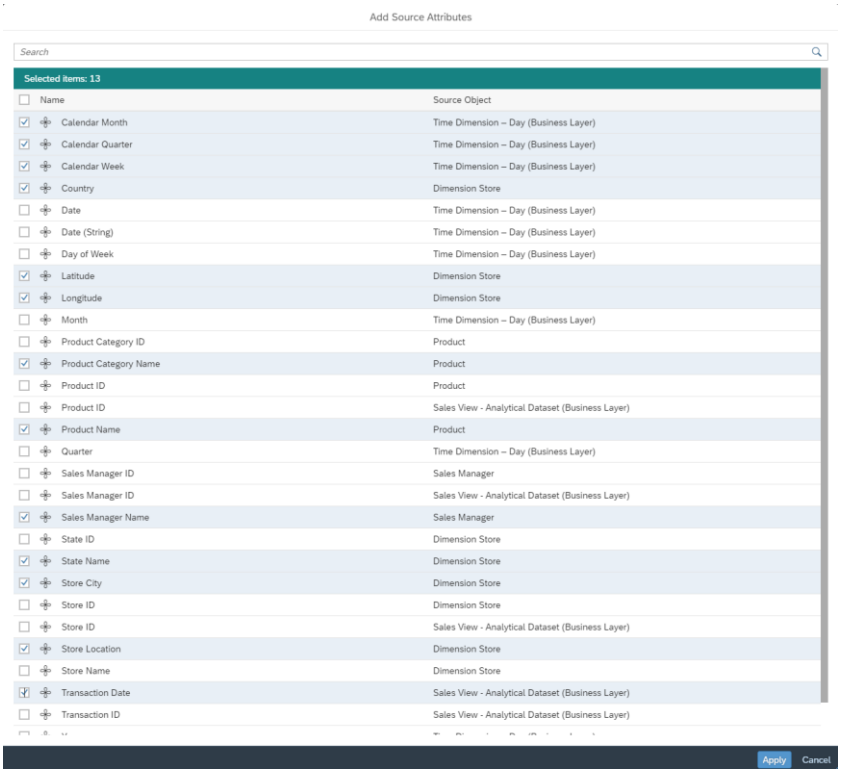


35. Click Apply.
36. Navigate to the tab Attributes.
37. Select the option Add Source Attributes.

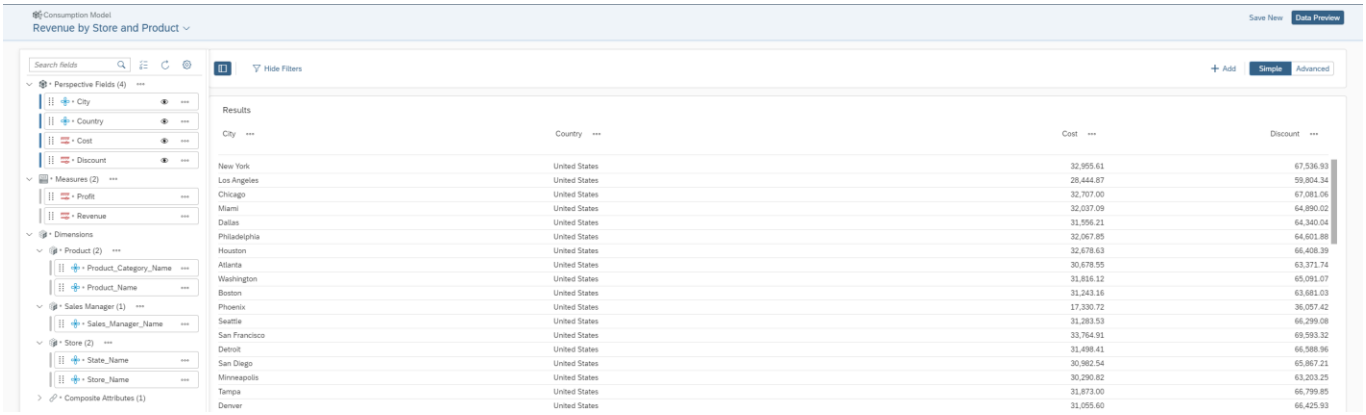


38. Select the following Attributes:
    - Calendar Month

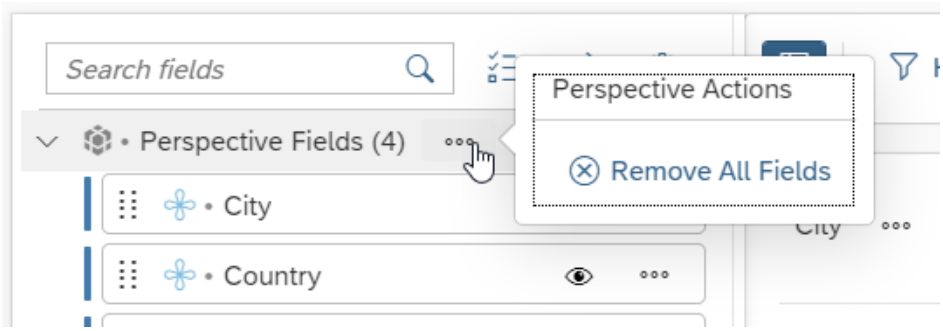
- Calendar Quarter
- Calendar Week
- Country
- Latitude
- Longitude
- Product Category Name
- Product Name
- Sales Manager Name
- State Name
- Store City
- Store Location
- Store Name
- Transaction Date



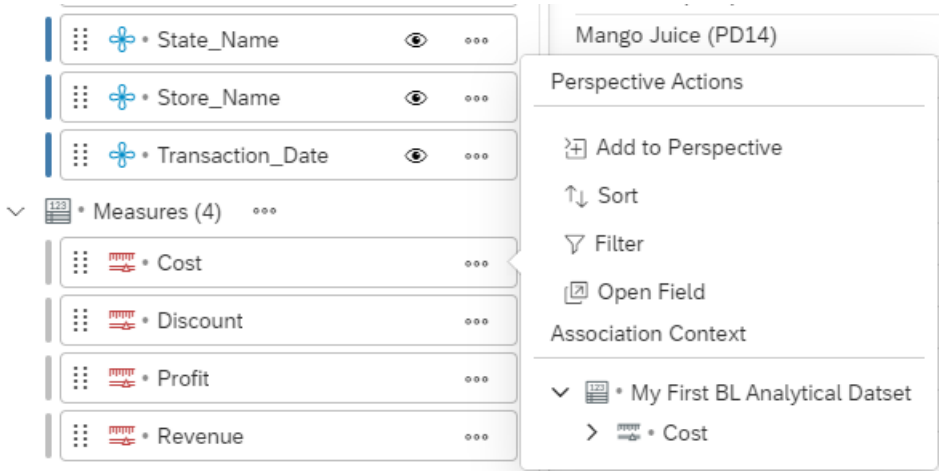
39. Click Apply.
40. Navigate to the tab Perspectives.
41. Click on the Data Preview option (top right corner).



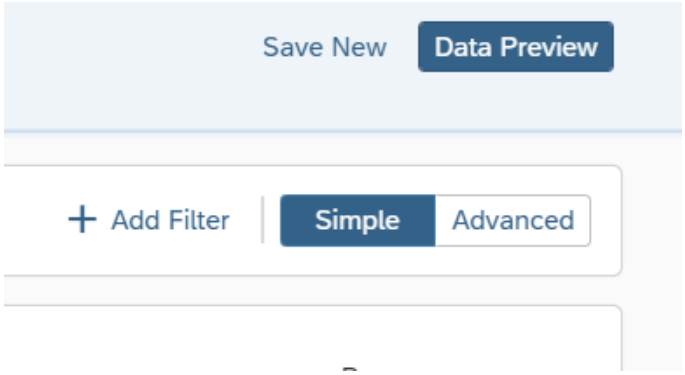
42. Open the context menu for the Perspective Fields header.



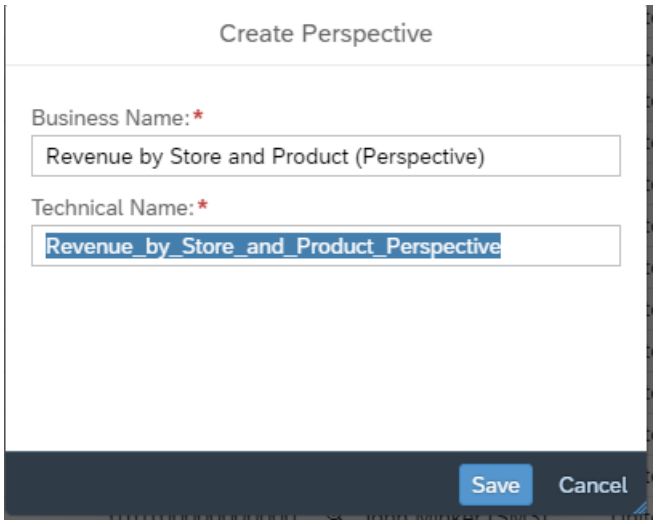
43. Select the option Remove All Fields.
44. Drag and Drop the following Dimensions to the list of Perspective Fields:
    - Product Name
    - Product Category Name
    - Store City
    - Country
    - Sales Manager Name
    - Store Name
    - State Name
45. Open the list of entries for Composite Attributes on the left hand side.
46. Drag and drop dimension Transaction Date to the Perspective Fields.
47. Navigate to the list of Measures on the left hand side.
48. Select measure Cost and open the More menu (…).



49. Select the option Add to Perspective.
50. Repeat the step for the measures Discount, Profit, and Revenue.
51. Click Save New (top right corner).



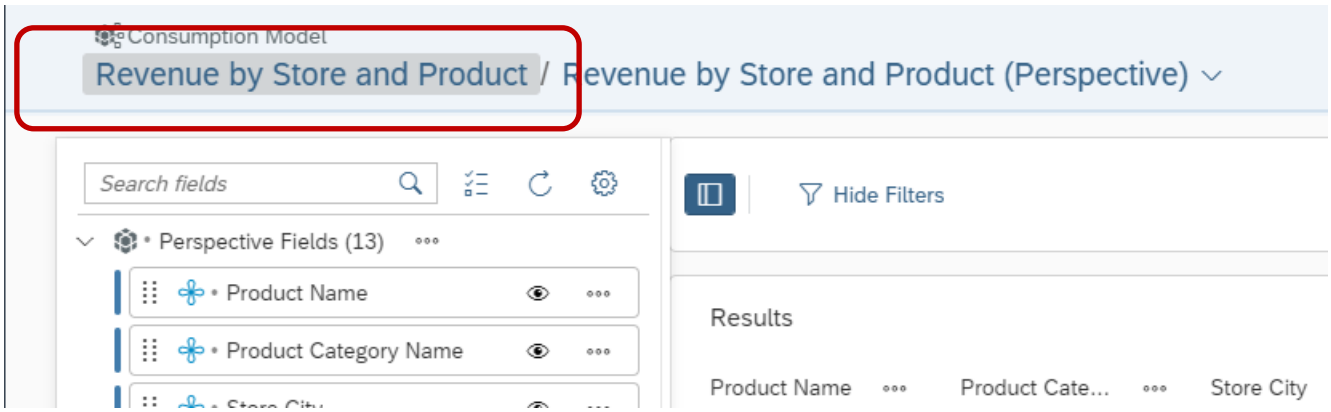
52. Enter Revenue by Store and Product (Perspective) as Business Name.
53. Enter Revenue_by_Store_and_Product_Perspective as Technical Name



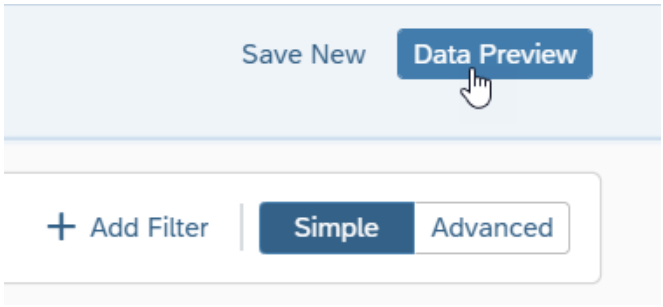
54. Click Save.

We created the first perspective and just need to deploy the perspective now and can then leverage the perspective in combination with SAP Analytics Cloud.

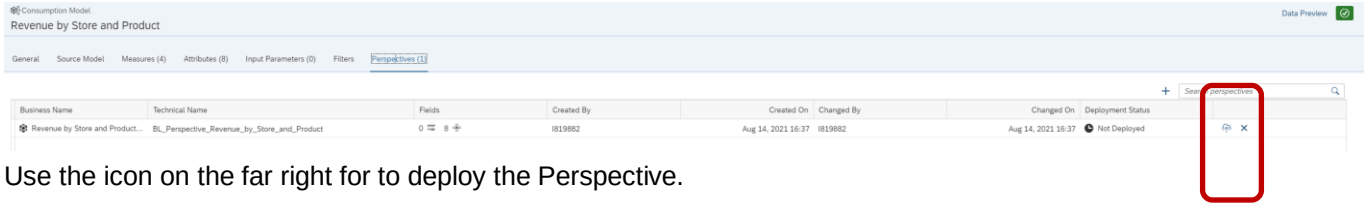
55. Click on the name of the Consumption Model in the top.



56. Click on Data Preview (top right) to close the Data Preview.



57. Navigate to the tab Perspectives.



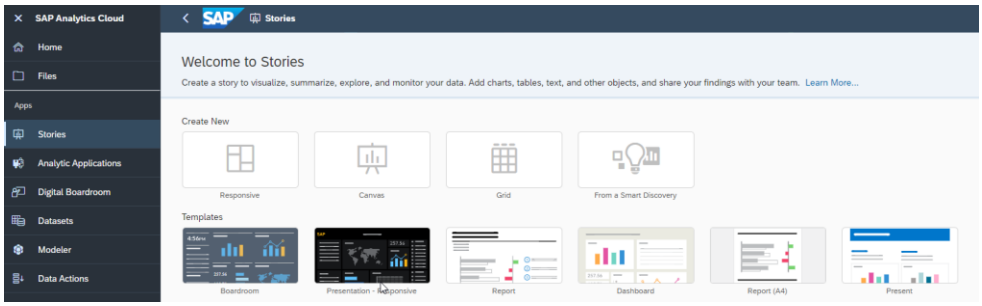
58. Use the icon on the far right for to deploy the Perspective.

We created our first consumption layer and perspective, which can now be used in SAP Analytics Cloud.

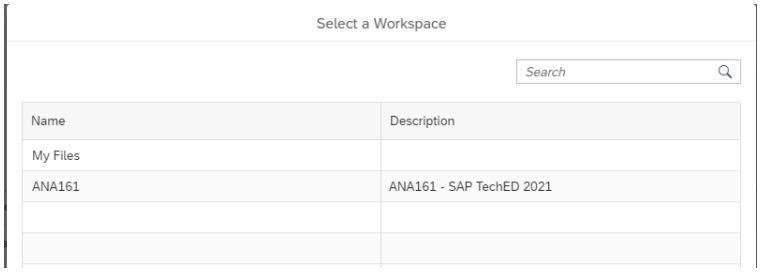
5.12 SAP Analytics Cloud – Exercises 12: Year over Year comparison

In this exercise we will setup a story in SAP Analytics Cloud, which allows us to do a Year over Year comparison of our revenue information.

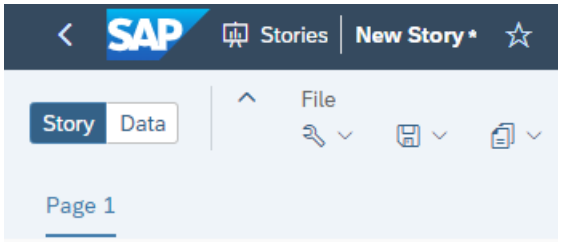
1. Log On to your SAP Analytics Cloud tenant.
2. Select the menu Stories in the left-hand panel.



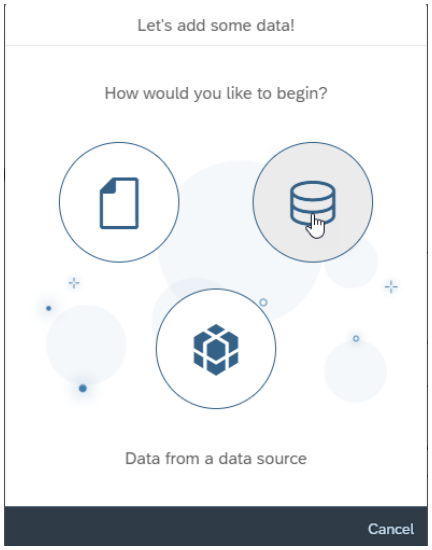
3. Select the option Canvas to create a new Story.
4. You will be asked to select a Workspace.
5. Select the entry ANA161.



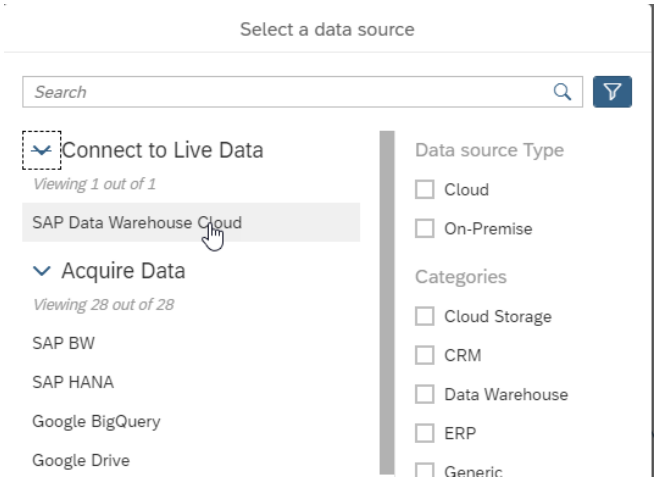
6. In the toolbar click on “Data” (top left) to add data from SAP Data Warehouse Cloud to your Story.



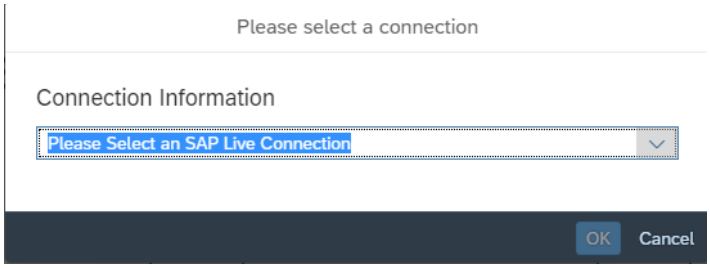
7. Select the option Data From Data Source.



8. Open the list Connect to Live Data.
9. Select the entry SAP Data Warehouse Cloud.

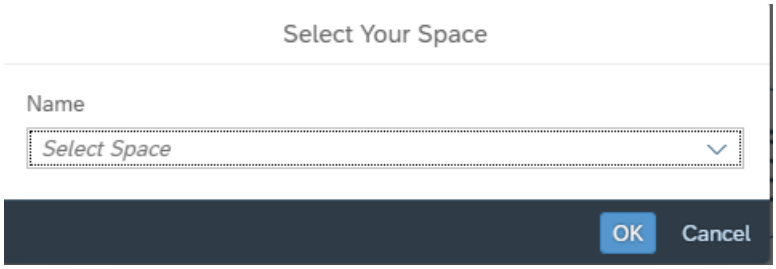


10. You will be asked to select a Live Connection to SAP Data Warehouse Cloud.

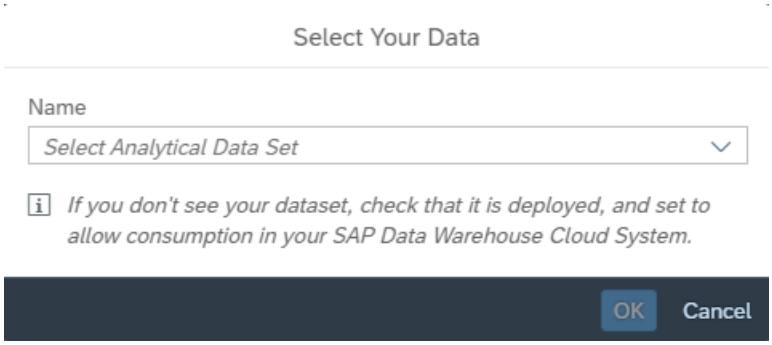


11. Please select the connection matching the SAP Data Warehouse Cloud system your selection. You can choose from the following:
    - DWCEU for the SAP Data Warehouse System in Europe
    - DWCUS for the SAP Data Warehouse System in US
    - DWCAPJ for the SAP Data Warehouse System in APJ

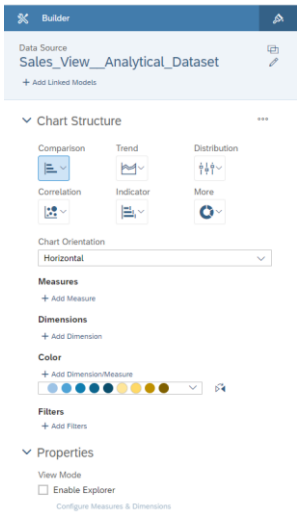
12. When being asked to select a SPACE, select the Space your created previously – ANA161-XX.



13. Click OK.

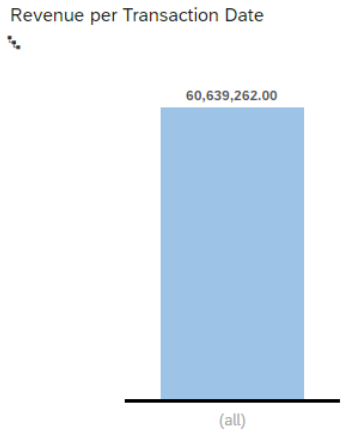


14. Afterwards you will be asked to select the Analytical Data Set or the Perspective from your Space.
15. For our first example, we will use the Analytical Data Set – Sales View – Analytical Dataset.
16. Click OK.
17. Select the option to add a Chart.
18. Now select the newly created empty chart on the canvas.
19. Navigate to the Builder Panel on the right hand side.



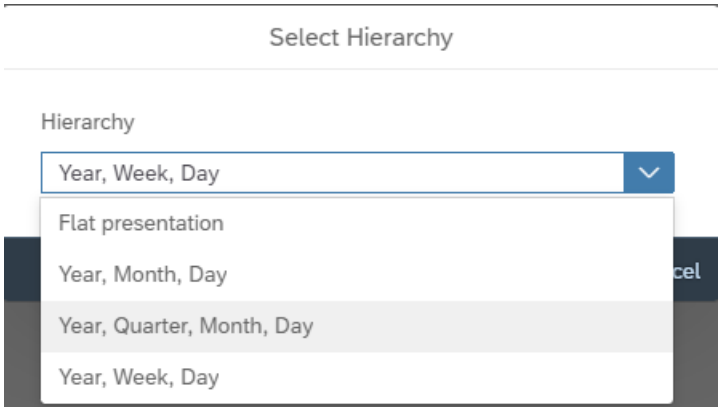
20. Click Add Dimension as part of the Dimensions section.
21. Select Transaction Date.
22. Click Add Measure as part of the Measures section.

23. Select measure Revenue.

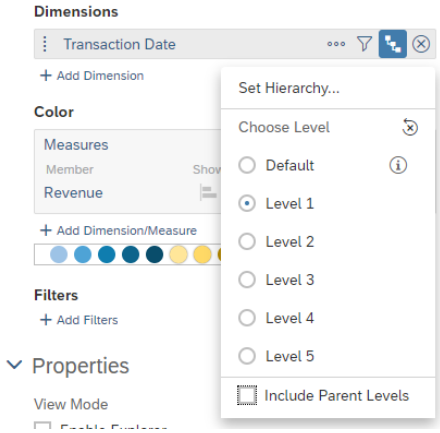


24. Now click on the hierarchy icon for dimension Transaction Date in the Builder Panel.

25. Select the option Set Hierarchy.

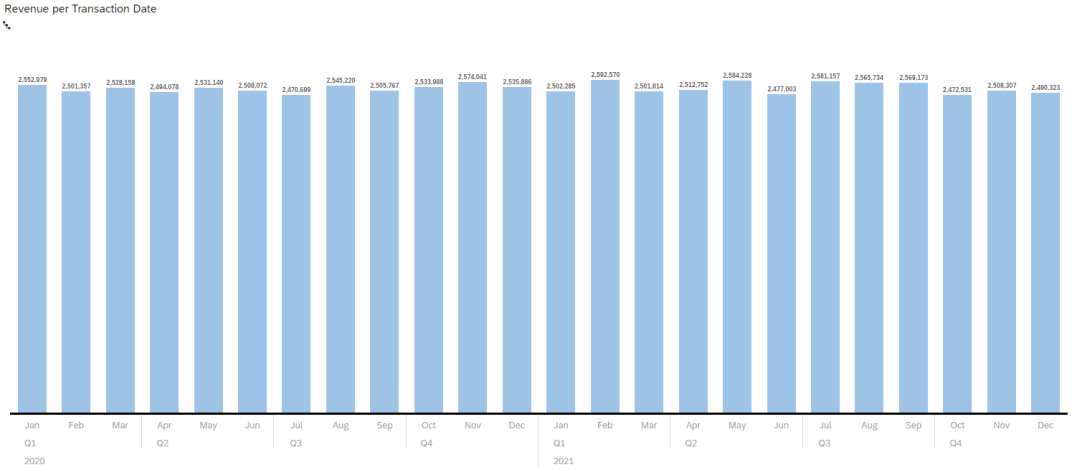


26. Select the entry Year, Quarter, Month, Day.
27. Click Set.
28. Now click on the hierarchy icon for dimension Transaction Date in the Builder Panel a second time.



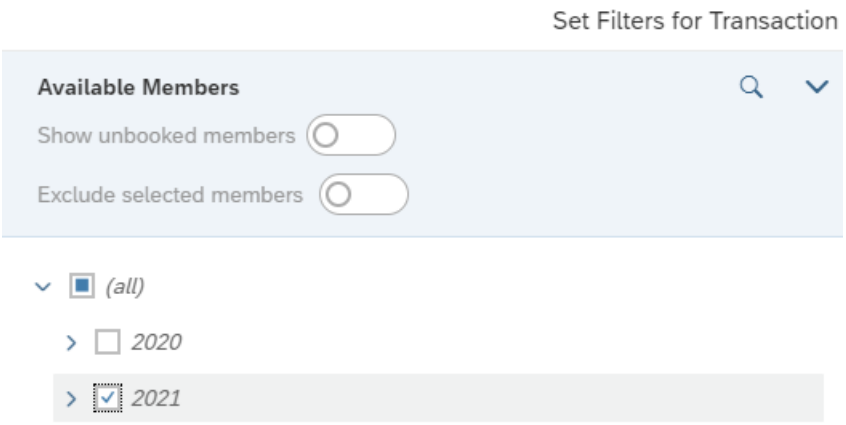
29. Select the option Level 4 – which represents the Month level.

30. Your chart should look similar to the image shown below.



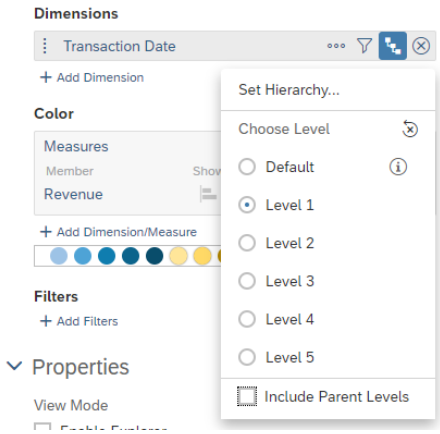
31. So instead of looking at two years of data, we want to look at the current year – 2021 – and see the variance compared to the last year data.
32. Click on the Filter icon for dimension Transaction Date.

33. Select the option Filter by Member.
34. Open the list of members and select the year 2021.

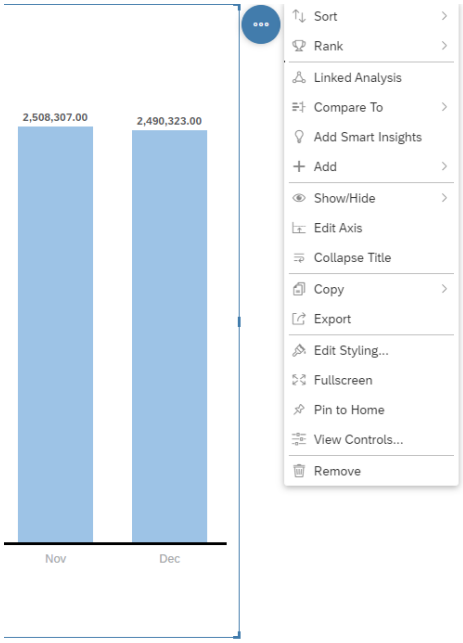


35. Click OK.

36. Now click on the hierarchy icon for dimension Transaction Date in the Builder Panel.

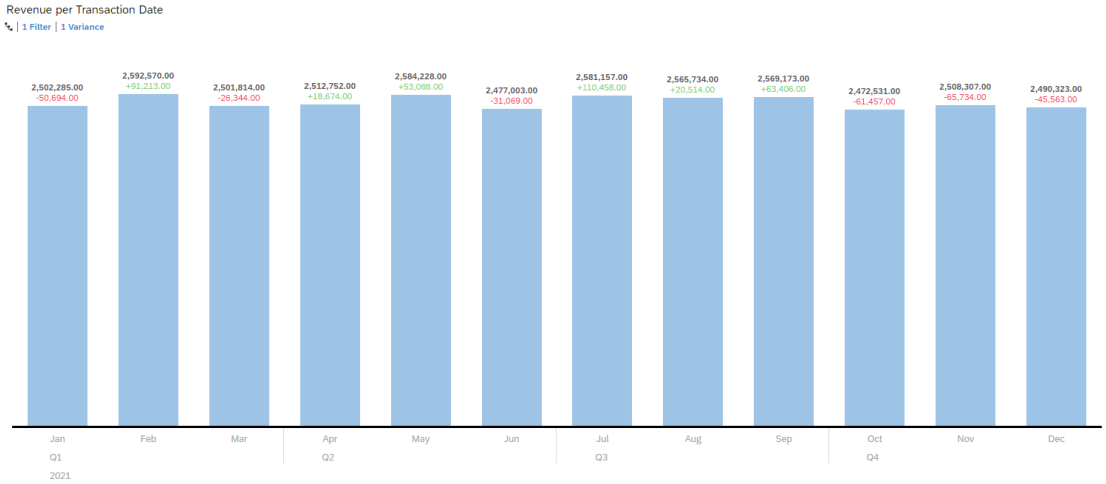


37. Select the option Level 3 – which represents the Month level now as we selected a Year as entry point.
38. Open the More menu for the chart (top right corner).

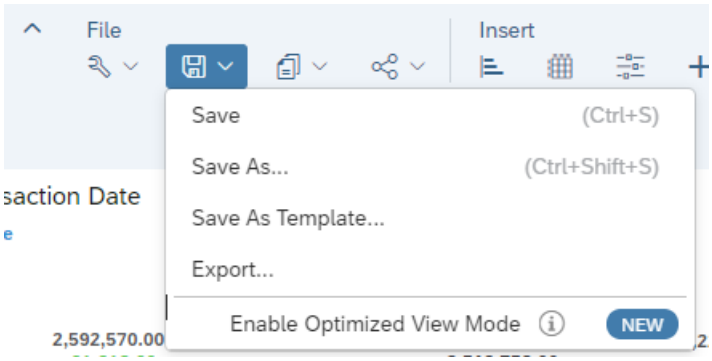


39. Select the menu Compare to
40. Select the option Previous Year.

41. Your chart should look like this.



42. In the File menu select the option to save your story.

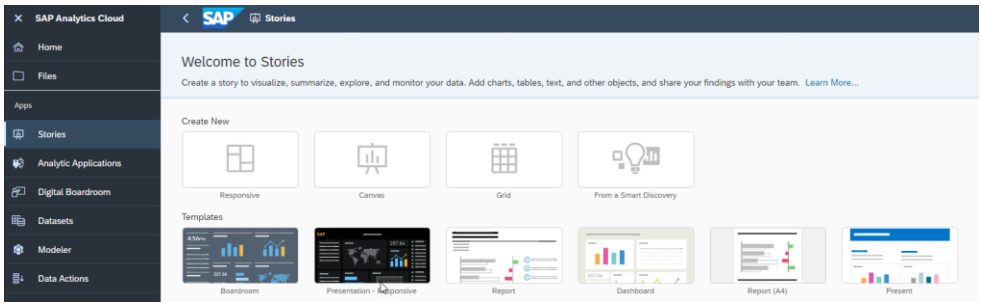


43. Select the User folder that matches your assigned user number.
44. Enter a Name and Description.
45. Click OK.

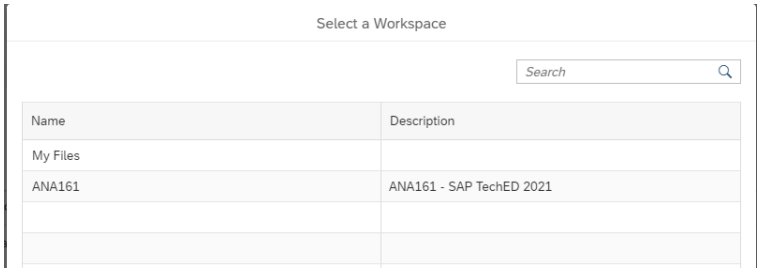
5.13 SAP Analytics Cloud – Exercises 13: Geographic Revenue Distribution

In this exercise we will setup a story in SAP Analytics Cloud, which allows us to view the measures along a geographic map.

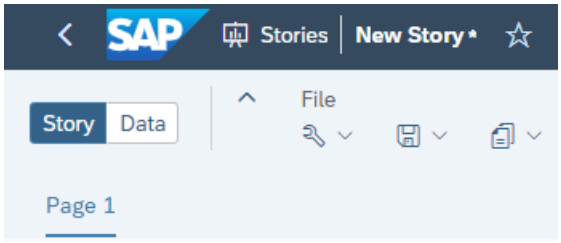
1. Log On to your SAP Analytics Cloud tenant.
2. Select the menu Stories in the left-hand panel.



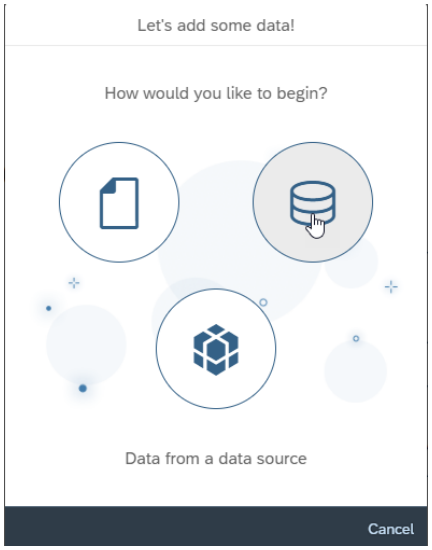
3. Select the option Canvas to create a new Story.
4. You will be asked to select a Workspace.
5. Select the entry ANA161.



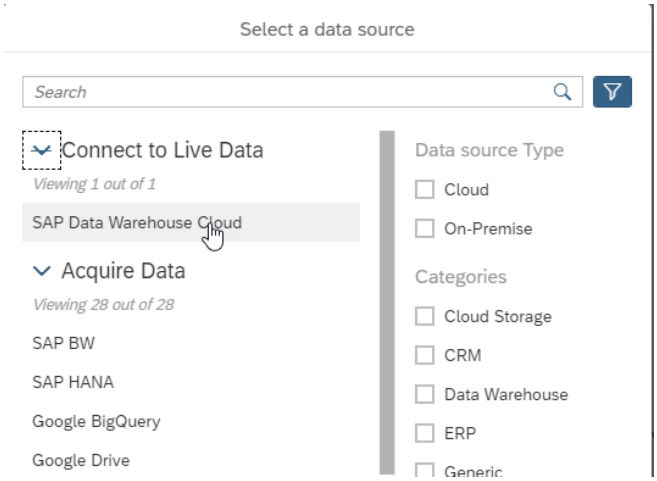
6. In the toolbar click on “Data” (top left) to add data from SAP Data Warehouse Cloud to your Story.



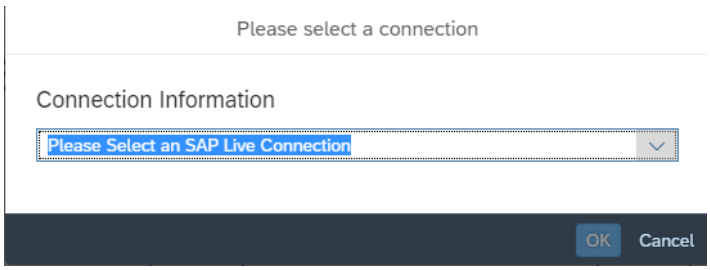
7. Select the option Data From Data Source.



8. Open the list Connect to Live Data.
9. Select the entry SAP Data Warehouse Cloud.

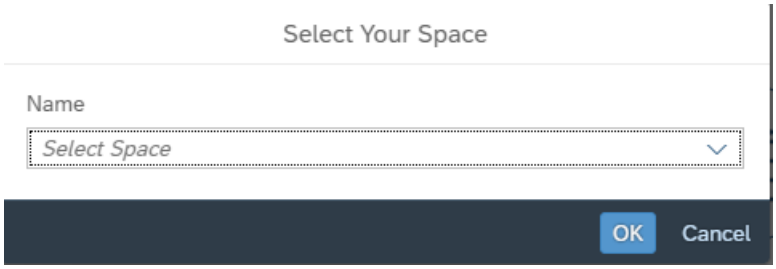


10. You will be asked to select a Live Connection to SAP Data Warehouse Cloud.

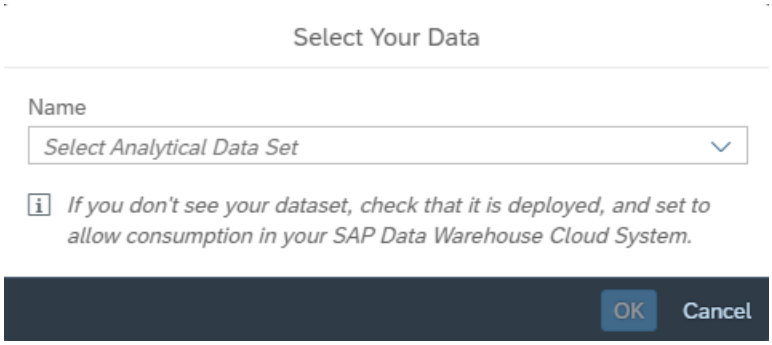


11. Please select the connection matching the SAP Data Warehouse Cloud system your selection. You can choose from the following:
    - DWCEU for the SAP Data Warehouse System in Europe
    - DWCUS for the SAP Data Warehouse System in US
    - DWCAPJ for the SAP Data Warehouse System in APJ

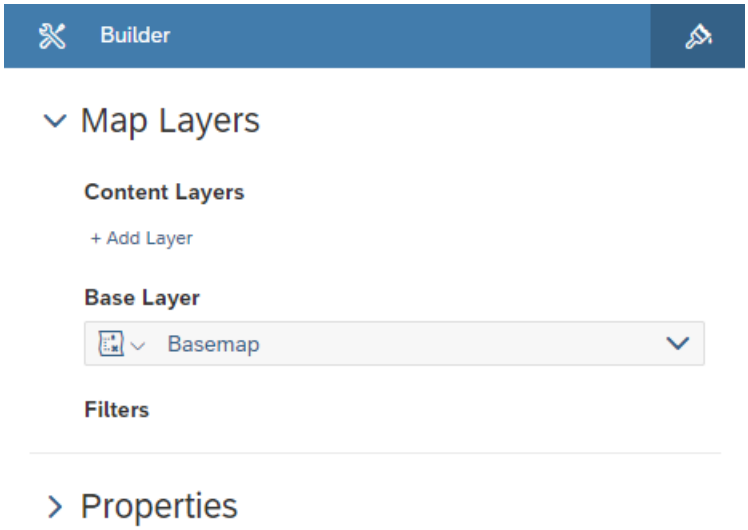
12. When being asked to select a SPACE, select the Space your created previously – ANA161-XX.



13. Click OK.

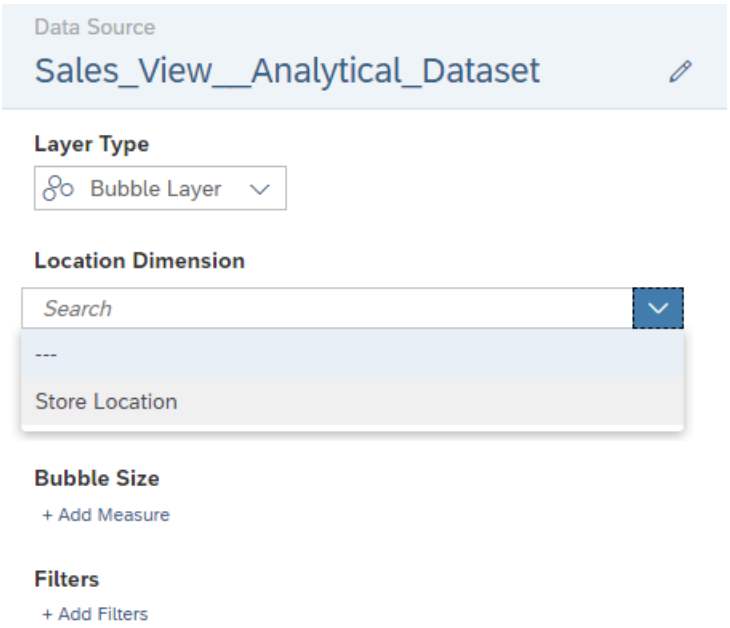


14. Afterwards you will be asked to select the Analytical Data Set or the Perspective from your Space.
15. For our second example, we will use the Analytical Data Set – Sales View – Analytical Dataset.
16. Click OK.
17. Select the option to add a Geo Map.
18. Resize the map, so that it uses the complete screen.
19. In the panel on the right hand side, select the option “Add Layer” for the Content Layer option.



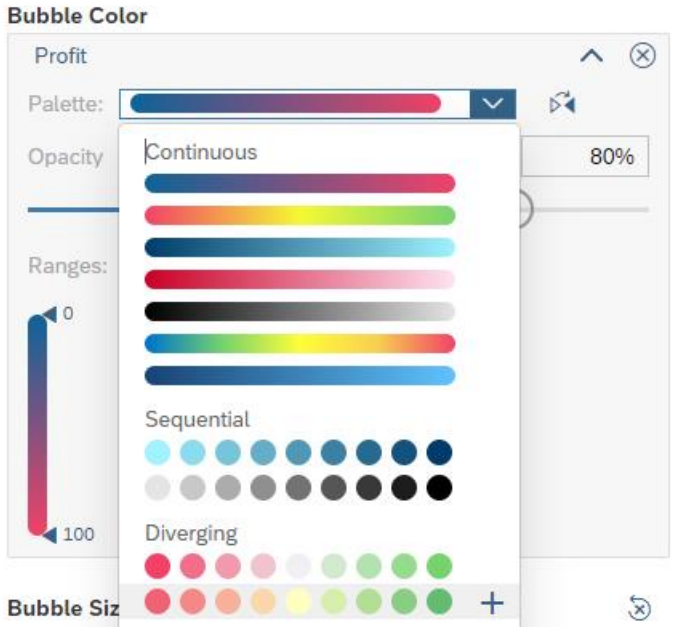
20. As we only have one dataset right now, the data set from SAP Data Warehouse Cloud will be assigned to the new map layer.

21. Click on Add Location Dimension for the Location Dimension area.

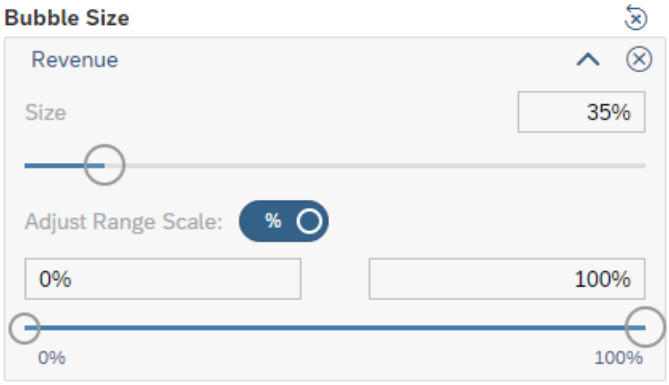


22. Select the option Store Location. This is the store location dimension we created previously based on the longitude and latitude values for the store dimension.
23. Click on Add Measure for the Bubble Size.
24. Select measure Revenue.
25. Click Add Measure / Dimension for the Bubble Color
26. Select measure Profit.
27. Now open the details for the measure Profit as part of the Bubble Color.

28. Open the list of Color Palette.

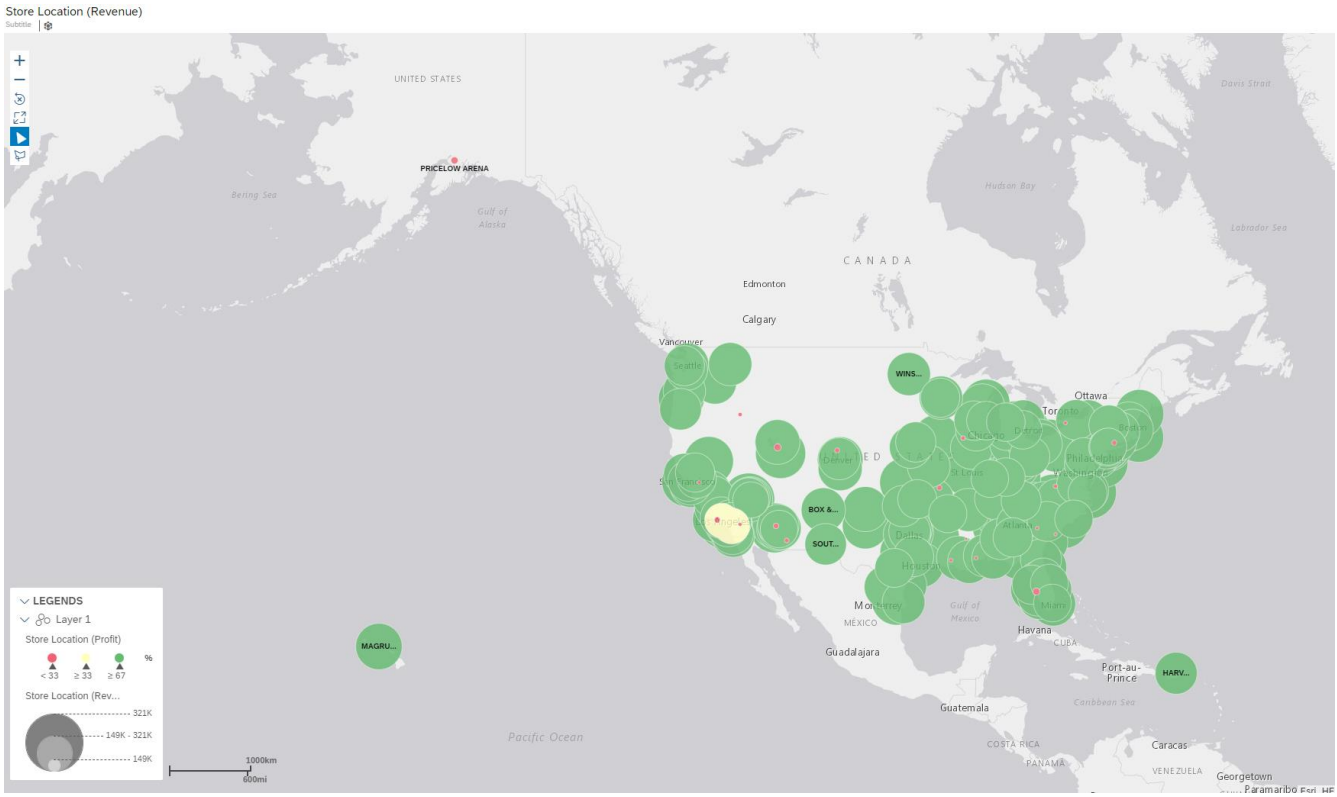


29. Select the second entry from the Diverging category going from Red to Green.
30. Now open the details for the Bubble Size definition.

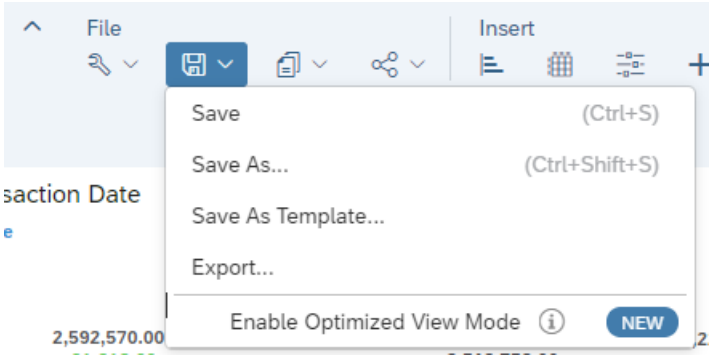


31. Set the size to 35%.

32. Your map should look like this.



33. In the File menu select the option to save your story.

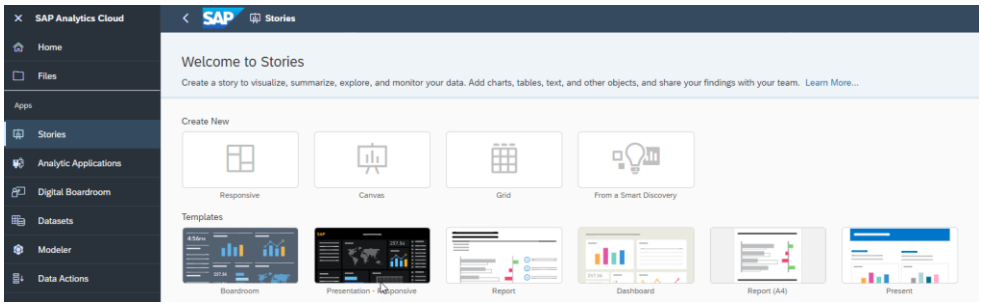


34. Select the User folder that matches your assigned user number.
35. Enter a Name and Description.
36. Click OK.

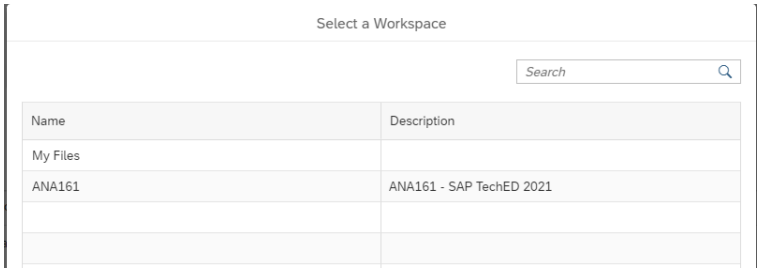
5.14 SAP Analytics Cloud – Exercises 14: Best Salesperson

In this exercise we will setup a story in SAP Analytics Cloud based on our Consumption Layer, and review who our best salesperson is.

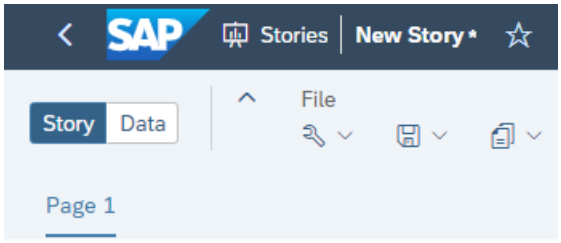
1. Log On to your SAP Analytics Cloud tenant.
2. Select the menu Stories in the left-hand panel.



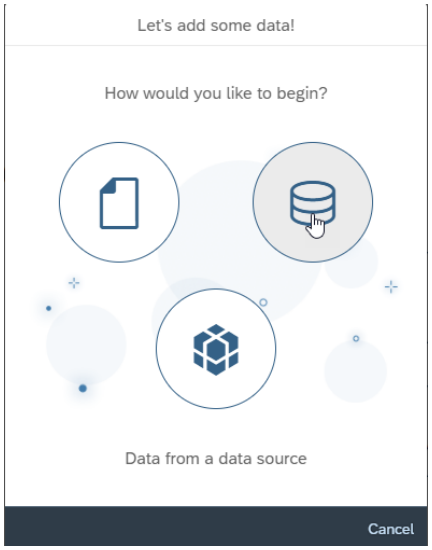
3. Select the option Canvas to create a new Story.
4. You will be asked to select a Workspace.
5. Select the entry ANA161.



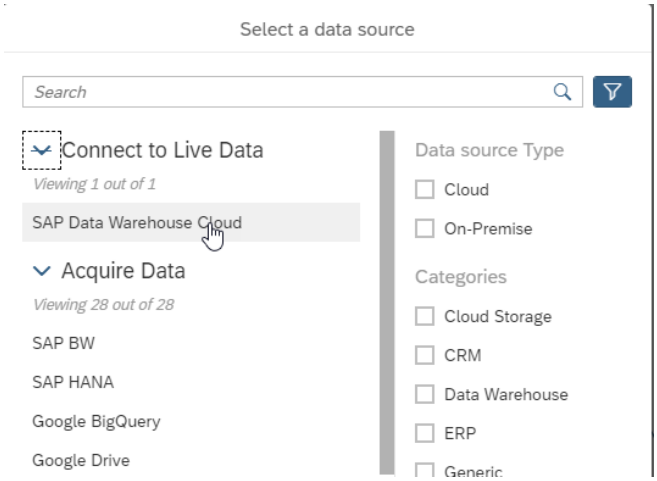
6. In the toolbar click on “Data” (top left) to add data from SAP Data Warehouse Cloud to your Story.



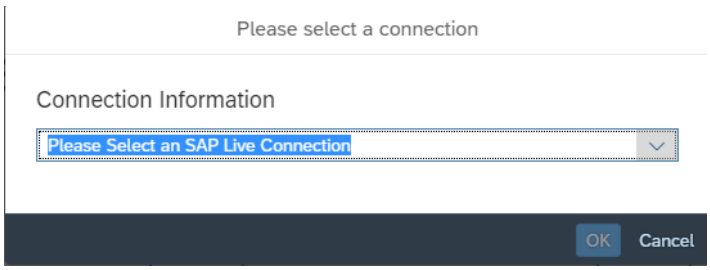
7. Select the option Data From Data Source.



8. Open the list Connect to Live Data.
9. Select the entry SAP Data Warehouse Cloud.

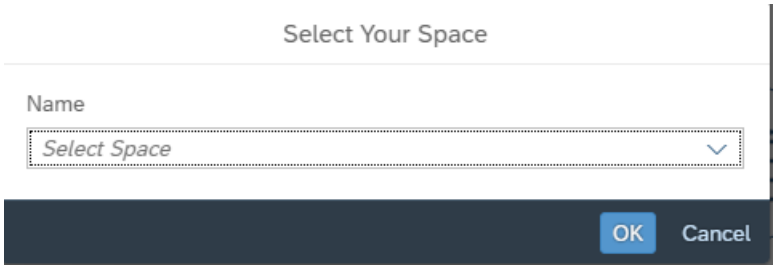


10. You will be asked to select a Live Connection to SAP Data Warehouse Cloud.

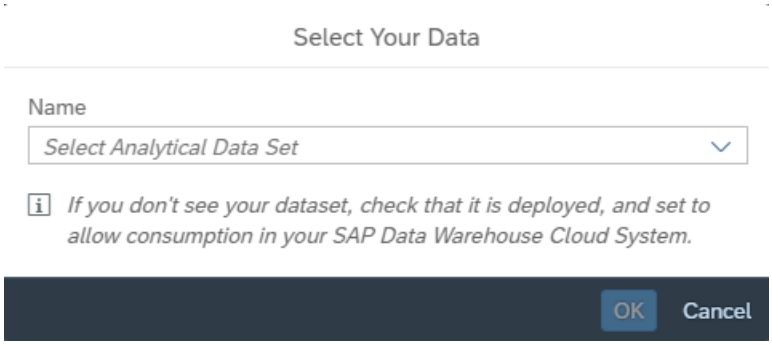


11. Please select the connection matching the SAP Data Warehouse Cloud system your selection. You can choose from the following:
    - DWCEU for the SAP Data Warehouse System in Europe
    - DWCUS for the SAP Data Warehouse System in US
    - DWCAPJ for the SAP Data Warehouse System in APJ

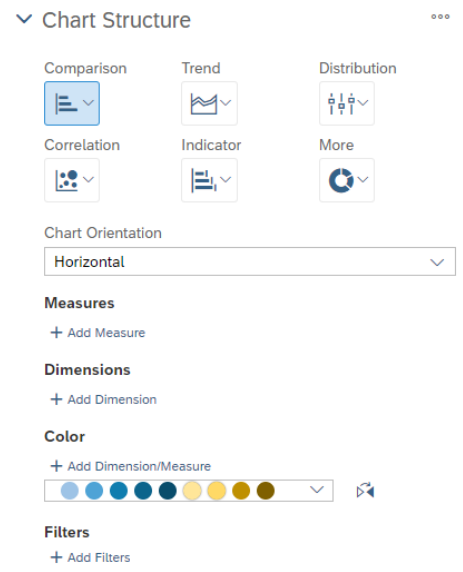
12. When being asked to select a SPACE, select the Space your created previously – ANA161-XX.



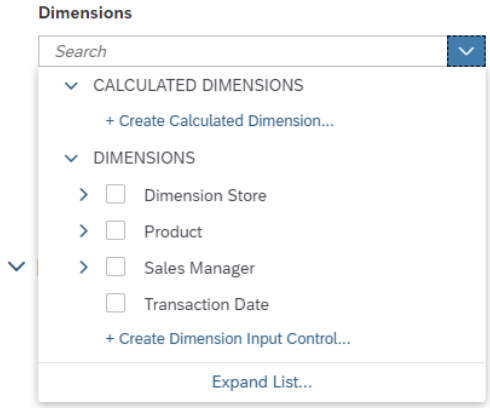
13. Click OK.



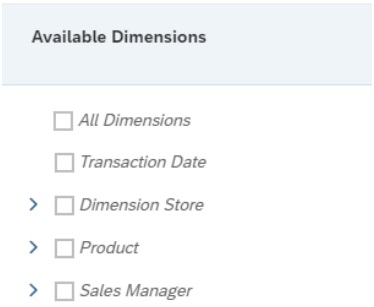
14. Afterwards you will be asked to select the Analytical Data Set or the Perspective from your Space.
15. For our third example, we will use the Perspective we created previously - Revenue by Store and Product (Perspective)
16. Click OK.
17. Select the option to add a new Chart to the canvas.
18. Navigate to the Builder Panel on the right hand side.



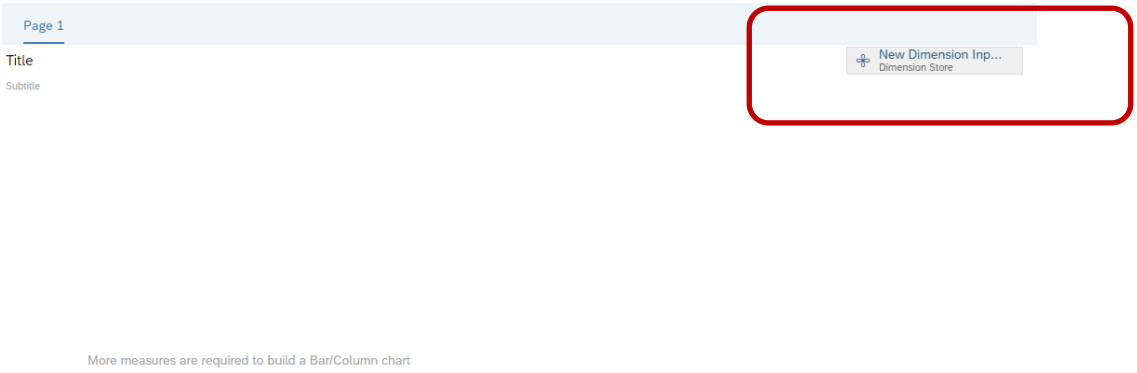
19. Click the option Add Dimension as part of the Dimensions section.



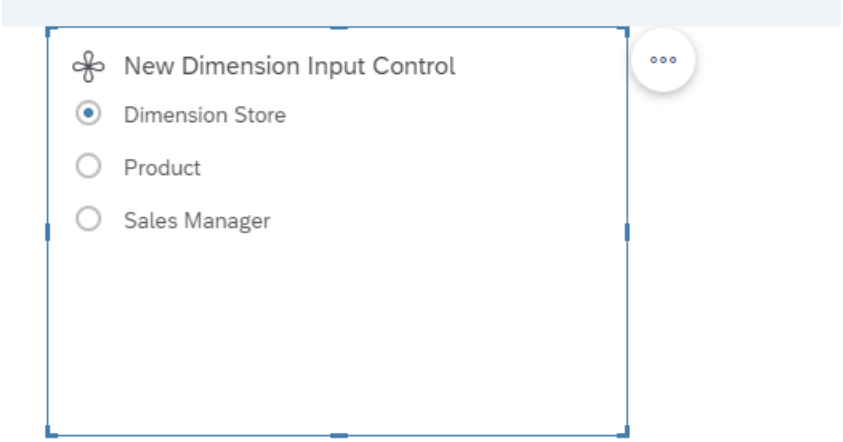
20. Select the option Create Dimension Input Control.



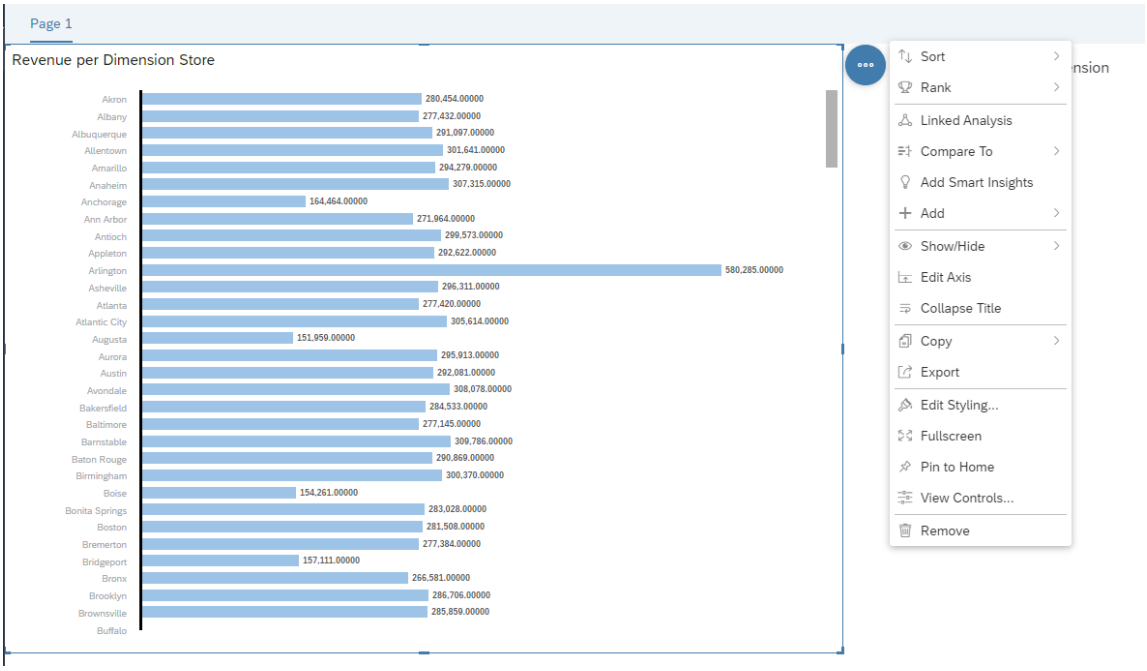
21. Select the entries:
    - Dimension Store
    - Product
    - Sales Manager
22. Click OK.
23. On your canvas you will then be presented with a token for the newly created Dimension Input Control.



24. Select the token and resize the token so that you can see all entries.

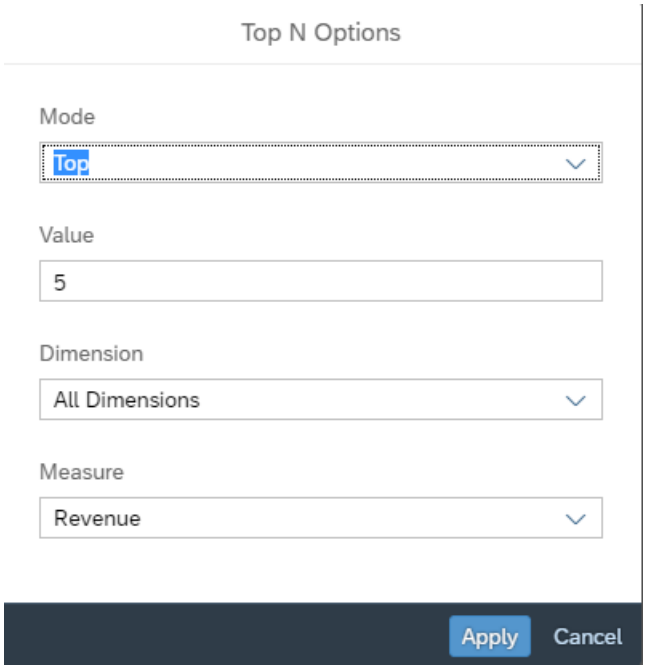


25. Now use a double click on the header of the Dimension Input Control and enter: Please select a dimension.
26. Select the empty chart.
27. Navigate to the Business Builder Panel on the right hand side.
28. Click the Add Measure option for the Measures section.
29. Select measure Revenue.
30. Now open the More Actions menu for the chart.

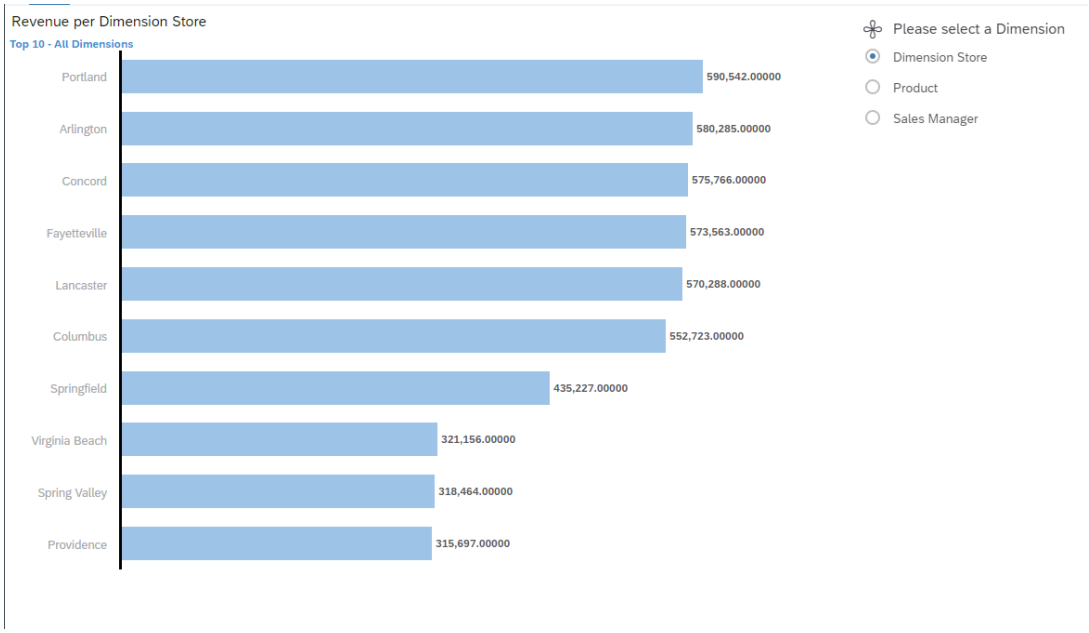


31. Select the menu Rank.

32. Select the option Top N Options.

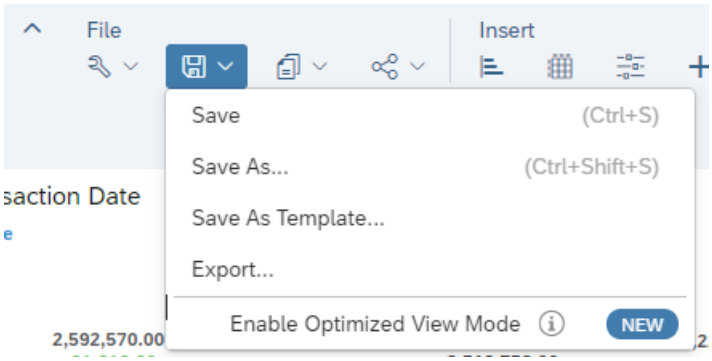


33. Set the Value to 10.
34. Click Apply.



35. You should now have a chart showing the Top 10 entries based on the dimension selected with the input control and based on the Consumption Layer created in SAP Data Warehouse Cloud.

36. In the File menu select the option to save your story.



37. Select the User folder that matches your assigned user number.
38. Enter a Name and Description.
39. Click OK.

This concludes the exercises for this session.

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