PUBLIC

Exploring SAP Data Warehouse Cloud from A to Z
Session ID: ANA364

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/teched2020-ANA364

Following the link above, you will find the exercise steps as well as a file named ANA364_RESOURCES.ZIP.

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

The ZIP File contains 1 folder with CSV Files and 1 folder with JSON files.

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://saphanajourney.com/data-warehouse-cloud/trial/

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 ANA364_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 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

In section 3 of this document you start with the exercises in SAP Data Warehouse Cloud.

- SAP Data Warehouse Cloud – Exercise 01: First Log On
- SAP Data Warehouse Cloud – Exercise 02: Create Your first Space
- SAP Data Warehouse Cloud – Exercise 03: Importing Tables
- SAP Data Warehouse Cloud – Exercise 04: Uploading Data
- SAP Data Warehouse Cloud – Exercise 05: Creating the View

2.2 SAP Data Warehouse Cloud – Business Layer

In section 4 of this document you start with the exercises for the Business Layer.

- SAP Data Warehouse Cloud – Business Layer Exercises 01: Dimension
- SAP Data Warehouse Cloud – Business Layer Exercises 02: Analytical Data Set
- SAP Data Warehouse Cloud – Business Layer Exercises 03: Adding Calculations
- SAP Data Warehouse Cloud – Business Layer Exercises 04: Consumption Layer

2.3 SAP Analytics Cloud

In section 5 of this document you then consume the business layer in SAP Analytics Cloud.

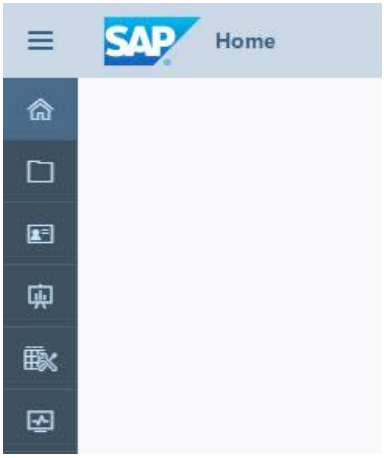
- SAP Analytics Cloud – Exercise 01: Consuming Business Layer

3 SAP DATA WAREHOUSE CLOUD EXERCISES

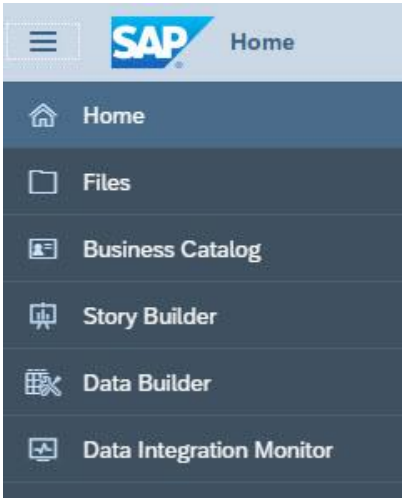
3.1 SAP Data Warehouse Cloud – Exercise 01: First Log On

After you received your SAP Data Warehouse Cloud credential, please follow these steps:

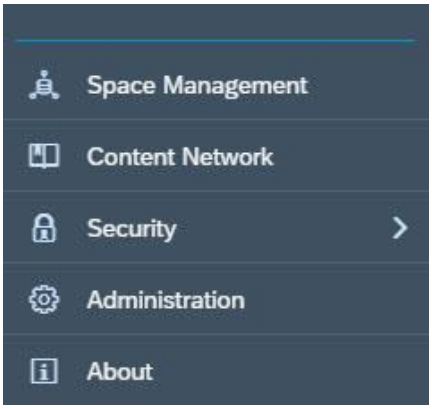
1. Open Google Chrome and log on to your SAP Data Warehouse Cloud trial.
2. In the top left of the start screen you will find the menu options.



3. 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.



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



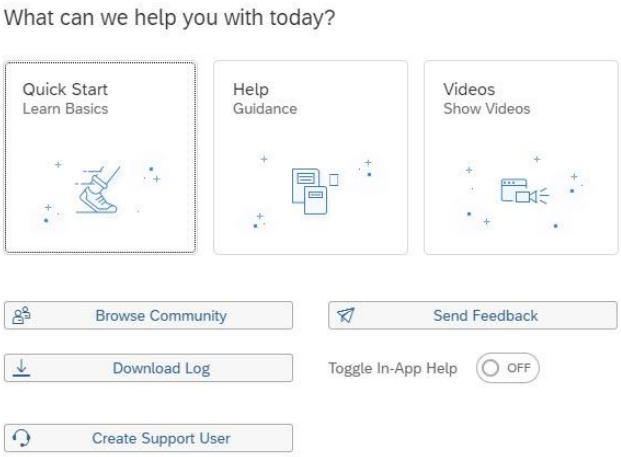
5. Now let's clarify the different areas:

- Files: This is your repository where you will find all your assets that you created. Think off it as your Windows Explorer for your SAP Data Warehouse Cloud.
- Business Catalog: 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.
- Story Builder: This is the embedded version of SAP Analytics Cloud, which provides you access to all the augmented analytics capabilities.
- 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.
- 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.

6. 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.
- Administration: 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.

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

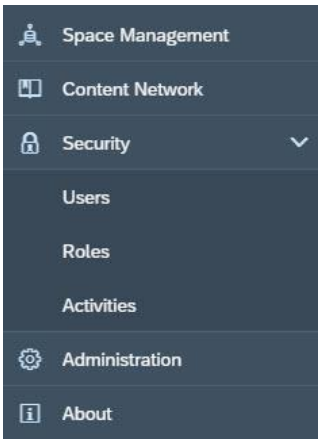


8. In the Help dialog you have multiple options from some Quick Start help to reach out to our support team.

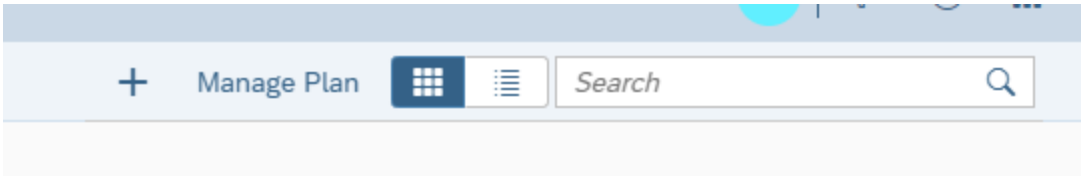
3.2 SAP Data Warehouse Cloud – Exercise 02: Create Your first Space

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.

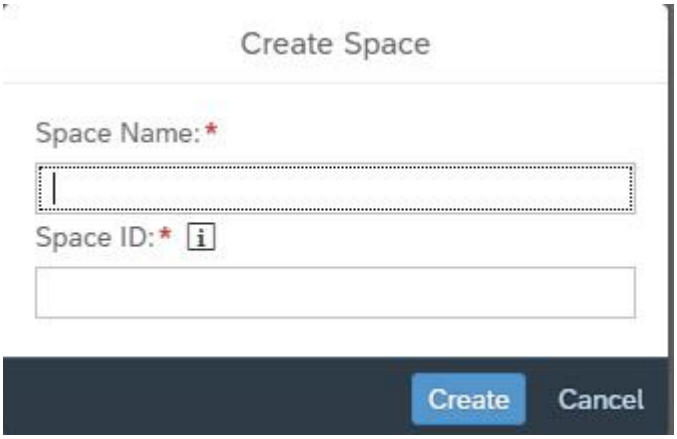
1. Log On to your SAP Data Warehouse Cloud system.
2. In the menu on the left-hand side, select the option Space Management.



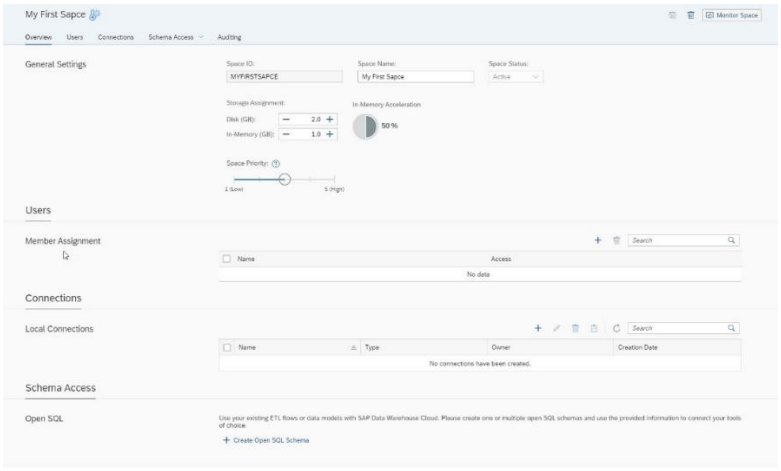
3. After you selected the menu item, you will be presented with a list of existing Spaces and you have the ability to create a new Space.



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: ANA364_XX (Replace XX with your assigned user number)
    - Space ID: ANA364_XX (Replace 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.



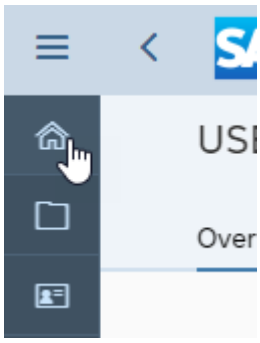
8. You are now being presented with the properties of your new Space and you have the ability to configure the following options:

    - 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. In our example we will use the default assignments for the Storage Assignment as well as the Space Priority.
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 Connections area we can later assign connections to remote data sources.

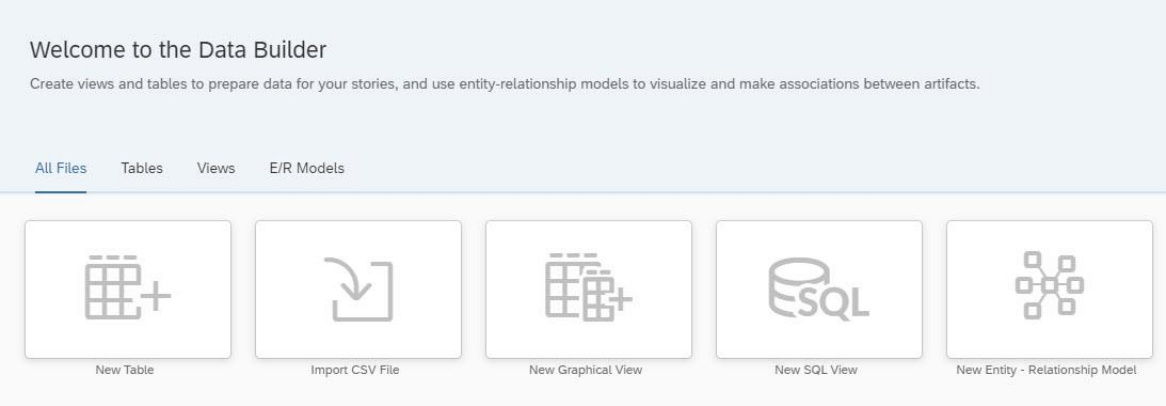
14. Click on the “Home” menu option to navigate back to the start screen.



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.

3.3 SAP Data Warehouse Cloud – Exercise 03: Importing Tables

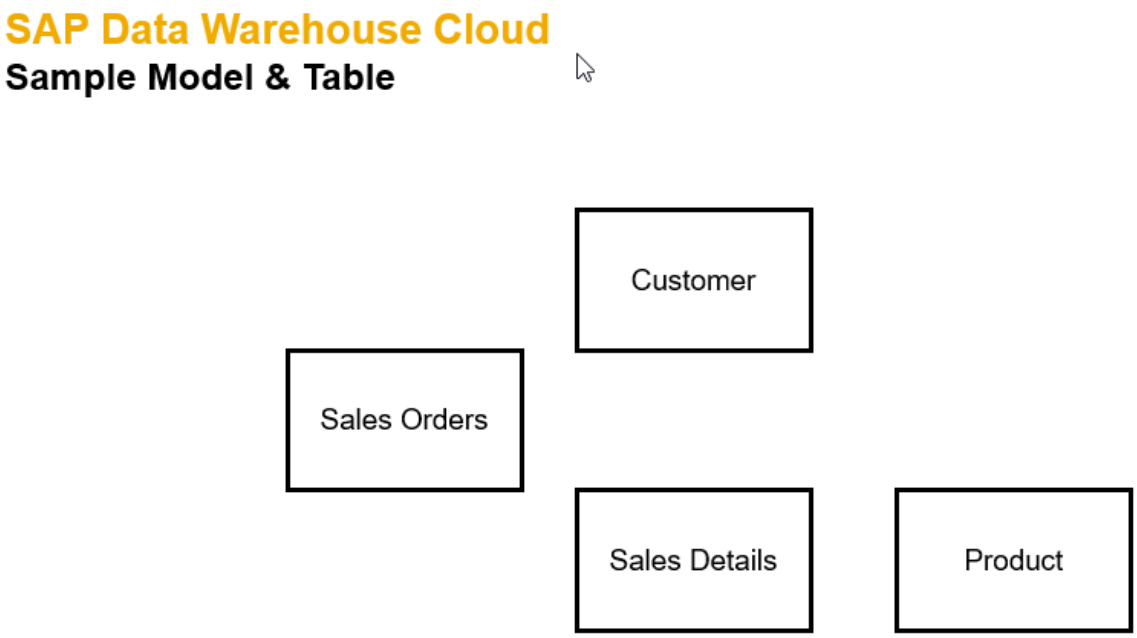
Before we are going to start with our first exercise by importing a pre-defined set of tables, lets clarify the different asset types that you can create in SAP Data Warehouse Cloud. When you launch the Data Builder from the menu, you will be presented with this screen:



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.
- Import CSV File: Here you also define a Table, but instead of defining the table and fields first, you are using a CSV file and upload the information in the CSV File as first step. You can then use the data wrangling capabilities with the information from the CSV File and then create the table with the data from the CSV File in one step.
- 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.

In this section we will start importing 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 take a look at the sample model and which tables we will need. In the second part we will then import 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.



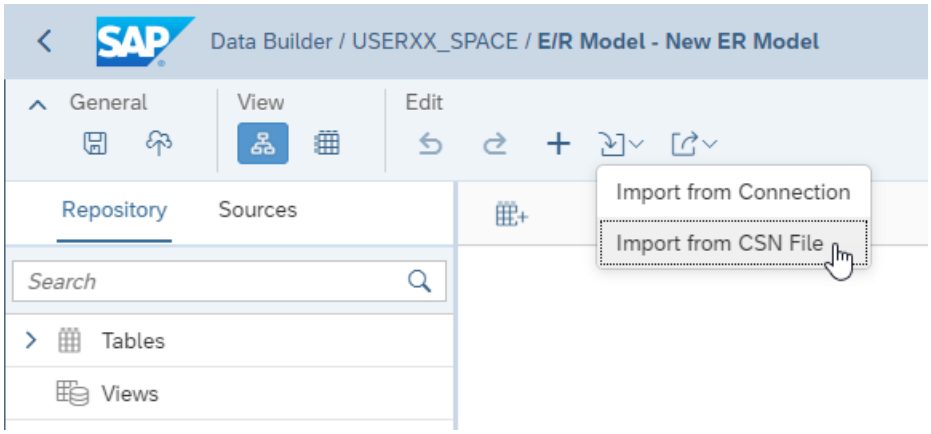
The image above shows the sample model with the Sales Orders and the Sales Details being the two most important information, providing the header and detailed information for our transactions. In addition, we have the information for our customers and our products.

In the next set of steps, we will outline how we can setup a model in SAP Data Warehouse Cloud and then use the Business Layer to establish a business driven view on top of the physical data model, and then consume the business layer using SAP Analytics Cloud.

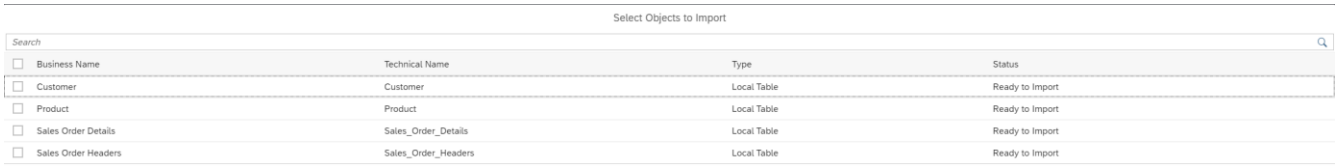
The files for these exercises are in the folder “Export_JSON” from the ZIP file you downloaded.

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

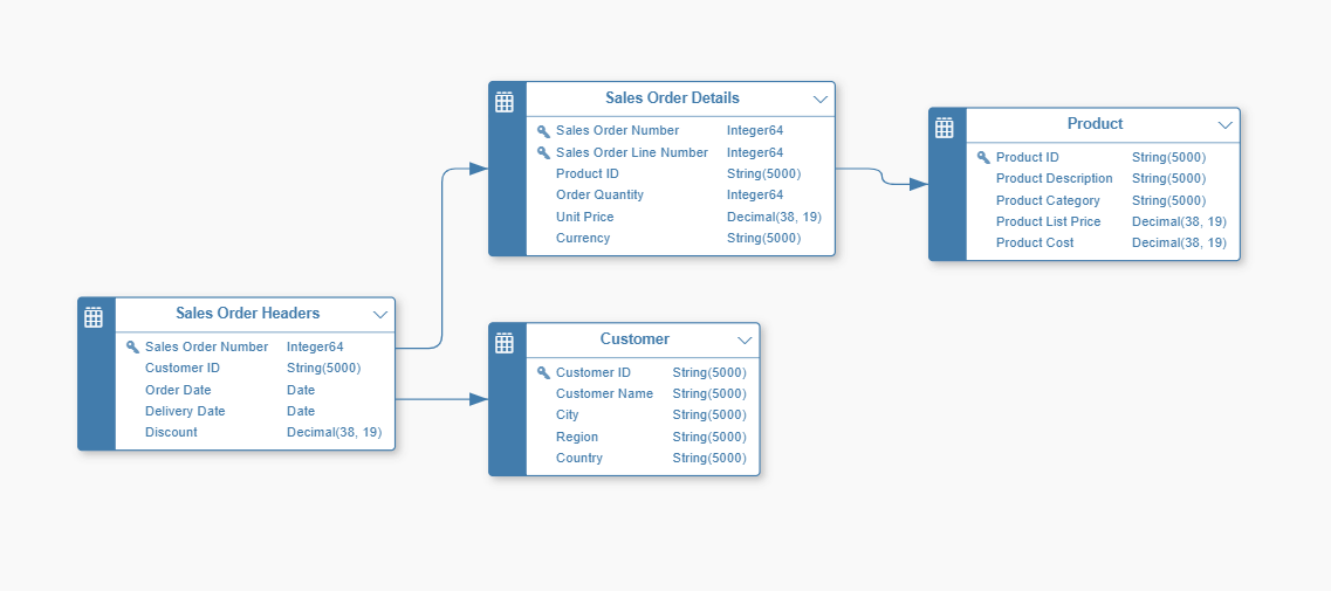
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.
3. In case you are being asked, select your space that you created in the previous exercise.
4. Select the option New Entity – Relationship Model.
5. In the New Entity Relationship Model, navigate to the toolbar.
6. Navigate to the Edit menu.



7. Open the Import option.
8. Select the option Import from CSN File.
9. Click Browse.
10. Select the file “Sales_Order_ER_Model.json” from where you unzipped the file in the folder Export_JSON.
11. Click Next.

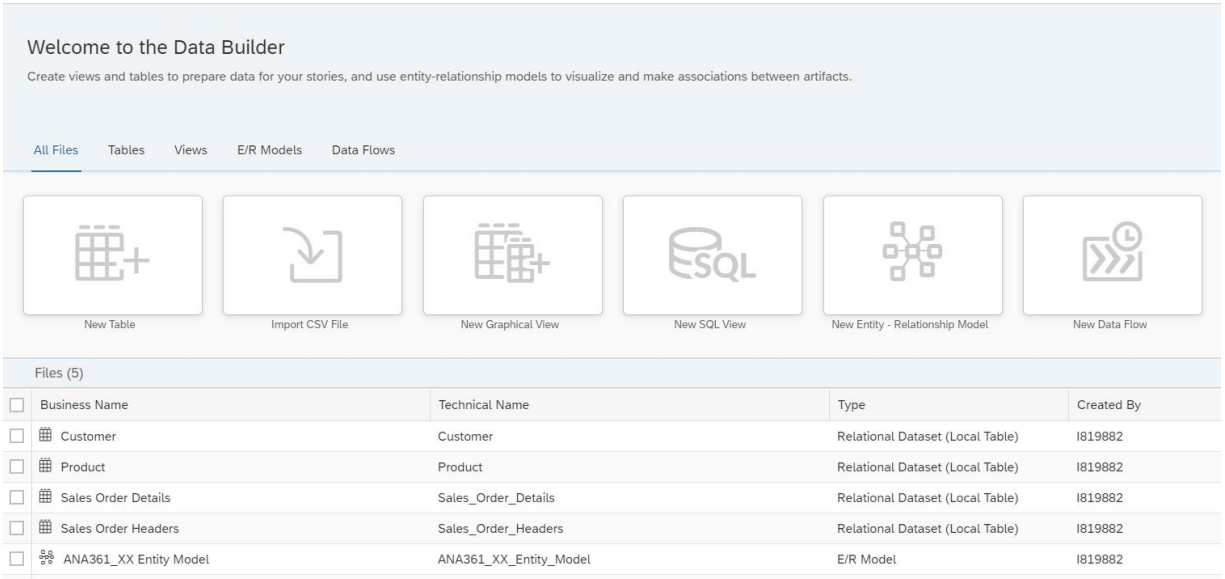


12. Select all tables.
13. Click Import.
14. You will receive a message about the import being completed and the tables will be shown on the canvas in form of the imported Entity Relationship Model.



15. Save the changes to your Entity Relationship model using the Save icon in the General menu (top left)
16. Enter the following details:
    - Business Name ANA364_XX Entity Model (replace XX with your user number)
    - Technical Name ANA364_XX_Entity_Model (replace XX with your user number)
17. Click Save.
18. Deploy the model using the Deploy icon next to the Save icon (top left).

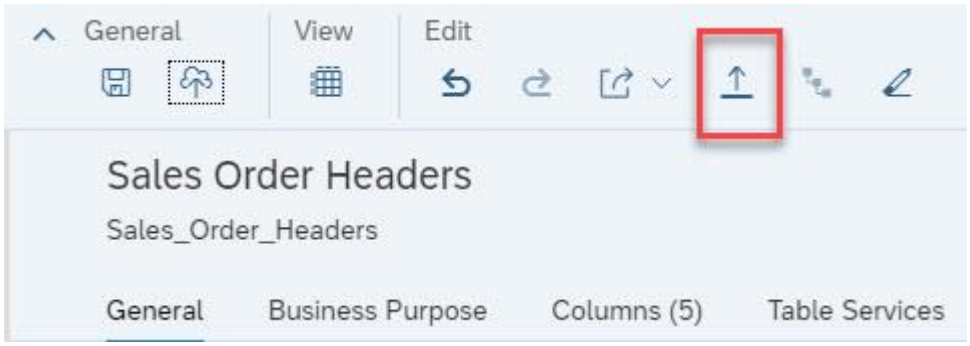
As part of the deployment of the Entity Relationship Model, also the underlying tables are being imported and deployed. When you navigate to the Data Builder screen, you should now see a set of 4 tables / dimensions and 1 Entity Relationship Model.



3.4 SAP Data Warehouse Cloud – Exercise 04: Uploading Data

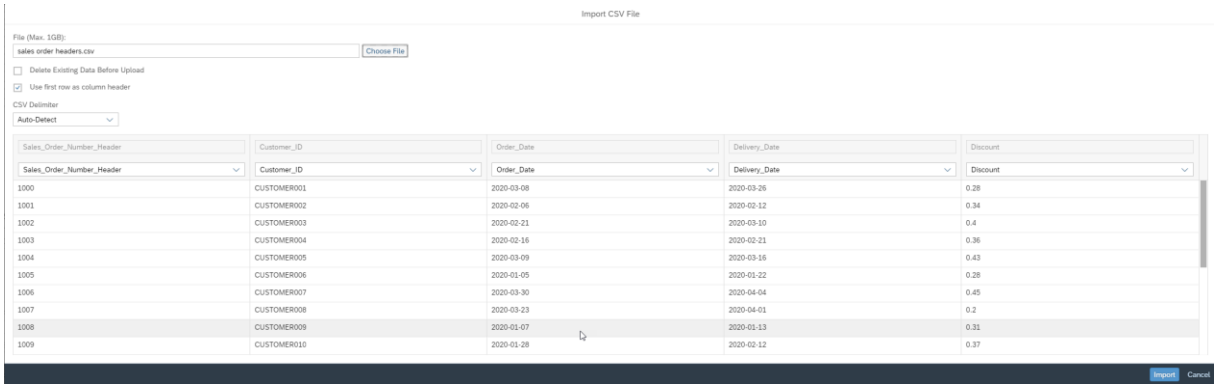
All the required CSV files for the next set of steps are in the folder “CSV Source files” from the downloaded ZIP File. We will now upload the CSV files into the corresponding tables.

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 entry Sales Order Headers.



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 order headers.csv” from the folder CSV Source Files.



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 that all columns of the table have a mapped column from the CSV File (2nd row in the screen).
11. Click Import.
12. You should receive a message about the successful import of the information.
13. There is no need to save or 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:

- Customer
- Product
- Sales Order Details

3.5 SAP Data Warehouse Cloud – Exercise 05: Creating the View

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 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.

When you are creating the overall View, which you then will leverage as part of your analytics using SAP Analytics Cloud, you can follow two main approaches:

- You can bring in all tables into a single view and establish their relationships, add calculations, filter, and define the final output.

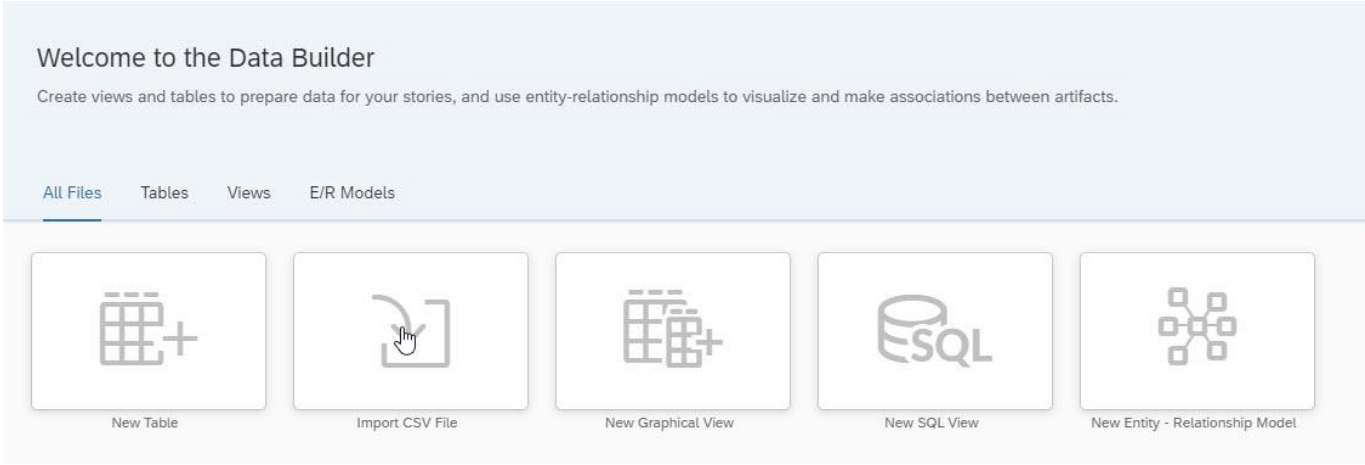
  or

- You can build a set of smaller views focused on a specific part of the overall output – for example Customer or Product – first and then combine those views into the final output.

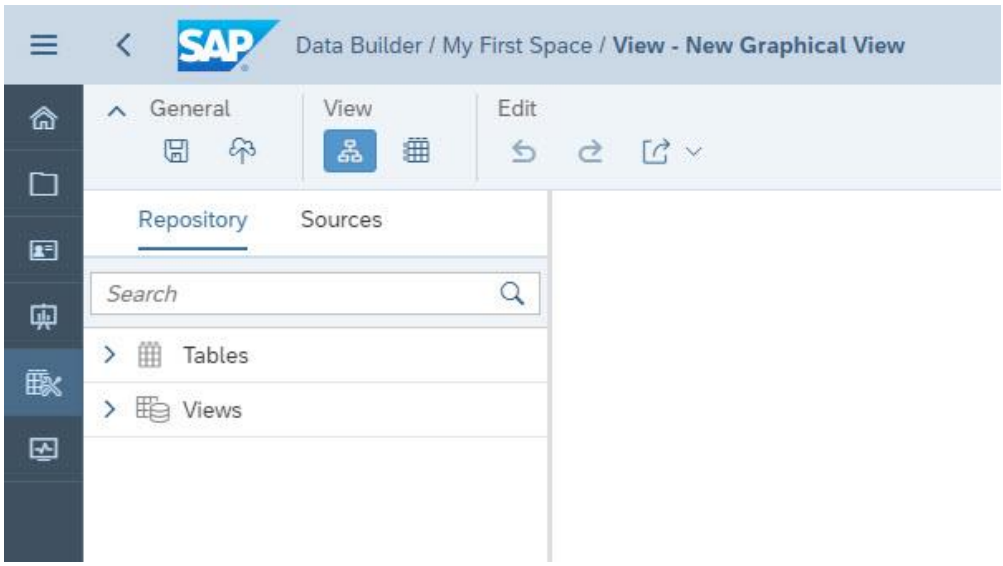
Following the second approach will over time basically create a set of views focused on dimensions and you can re-use those views across multiple views and it creates less dependency between the final output and the actual physical data model.

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

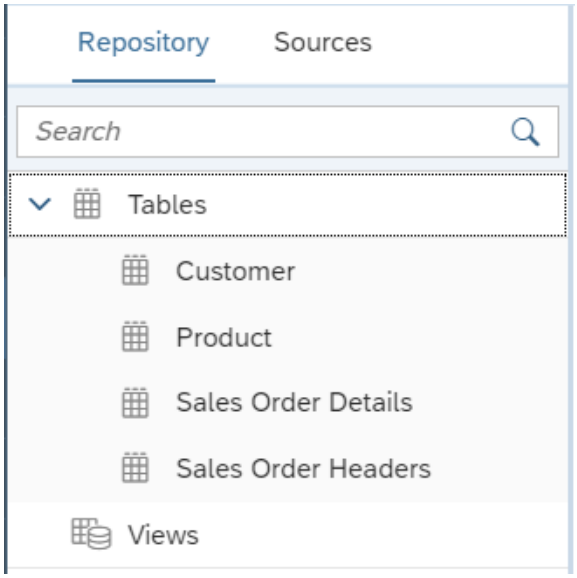
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Data Builder on the left-hand side.



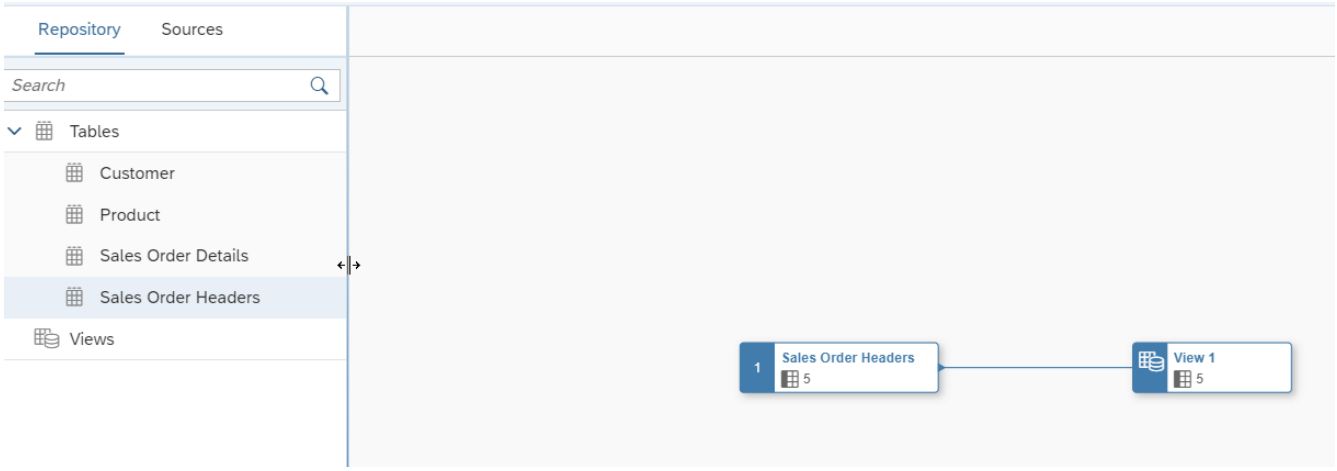
3. Click New Graphical View.



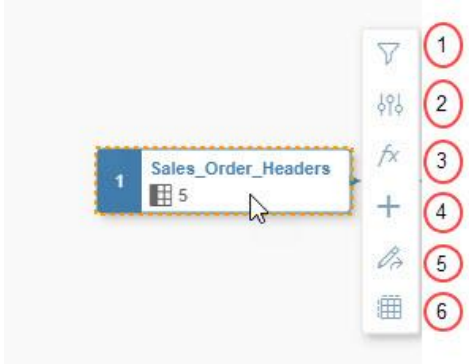
4. On the left-hand side you can decide between:
   - Repository: Here you have access to the local tables (imported data) and Views.
   - Sources: Here you have access to your connections and the remote tables.
5. Ensure you select the option Repository.
6. Open the list of Tables.



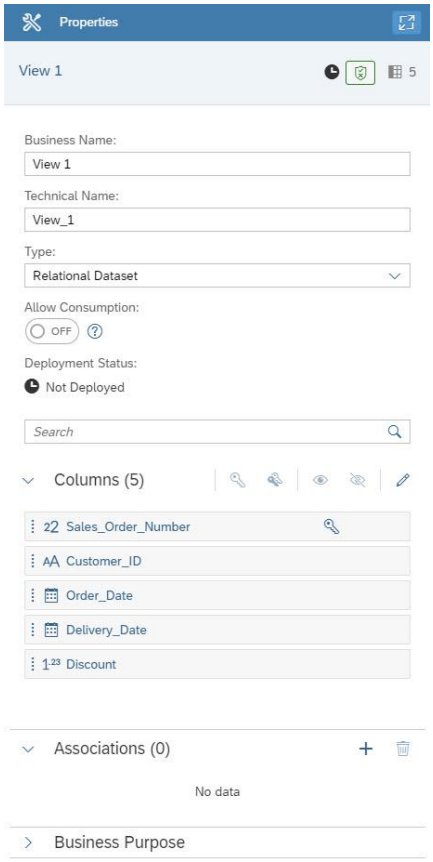
7. You are presented with the list of tables, which we created previously.
8. Drag and Drop the table Sales Order Headers to the canvas.



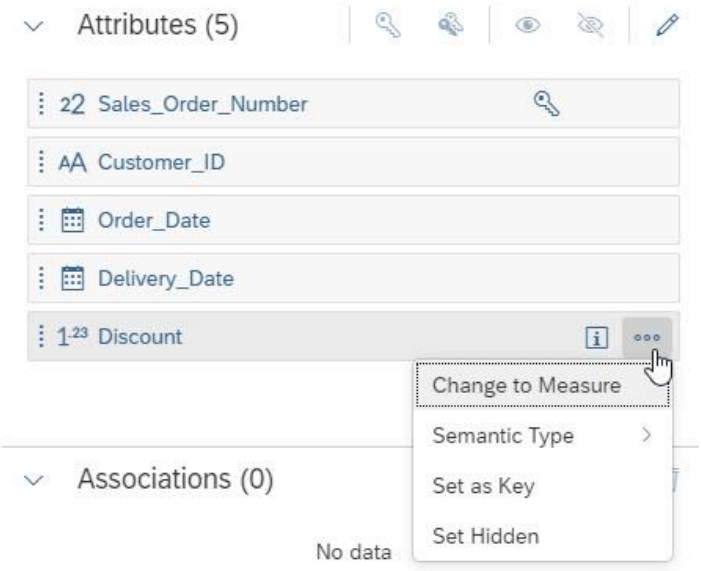
9. You automatically will – in addition to the table you dragged to the canvas – receive the output view as well, in our example called View 1.
10. Now click on the Sales Order Headers table on the canvas.



11. When you select the table on the canvas, you have the following options:
    - (1) You can add Filter on top of the Table.
    - (2) You can Rename or Hide columns.
    - (3) You can add Calculated Columns.
    - (4) You can add additional tables / views based on suggested joins, which are based on your Entity Relationship model.
    - (5) You can open the table in the editor.
    - (6) 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.



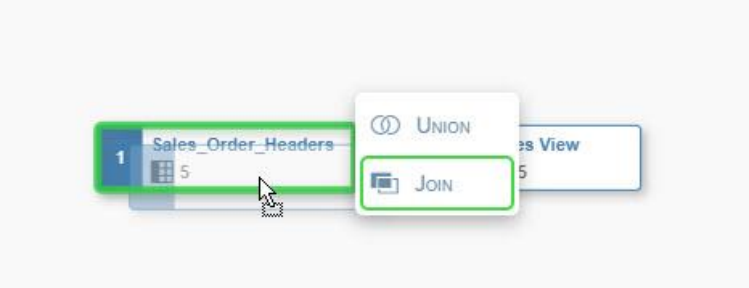
15. Here you can configure Properties for the final output:
    - You can configure the Business Name as well as the Technical Name.
    - You can configure the Type of Dataset
    - You can decide, if the View can be consumed or not.
    - You can choose which of the available Columns are shown or will 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 as Business Name.
17. The Technical Name will be generated based on the Business Name, but you can also change it.
18. Set the Type to Analytical Dataset option.
19. Enable the option Exposing.
20. Now open the context menu for the Attribute Discount.



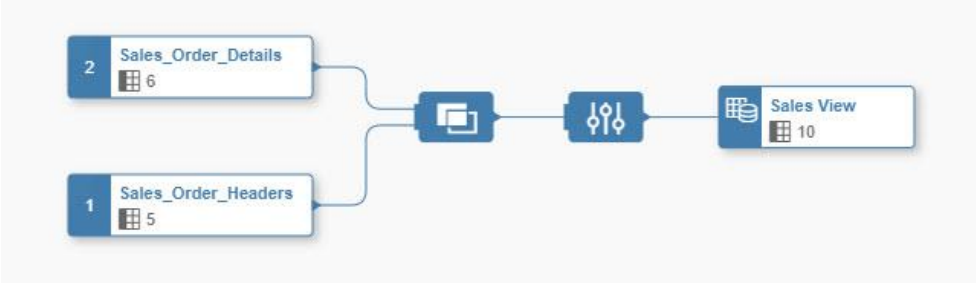
21. Select the option Change to Measure.

Average Aggregation
Please note, Discount is a measure that has to be aggregated using an Average and we will do so as part of our SAP Analytics Cloud story.

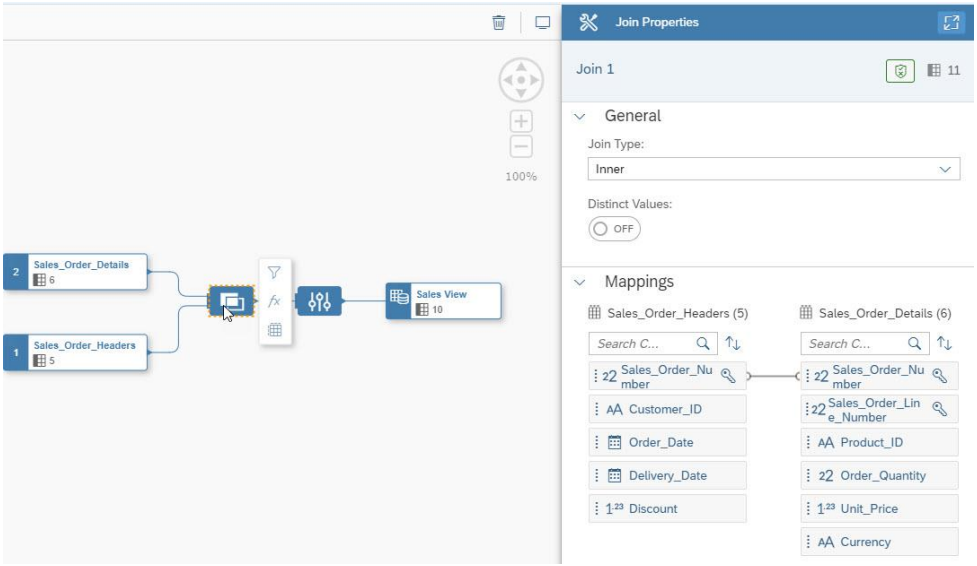
22. Now drag and drop the table Sales Order Details directly on top of the table Sales Order Headers on the canvas.



23. You are given the option to decide between a Union or a Join (keep the mouse button pressed).
24. Select the option Join.

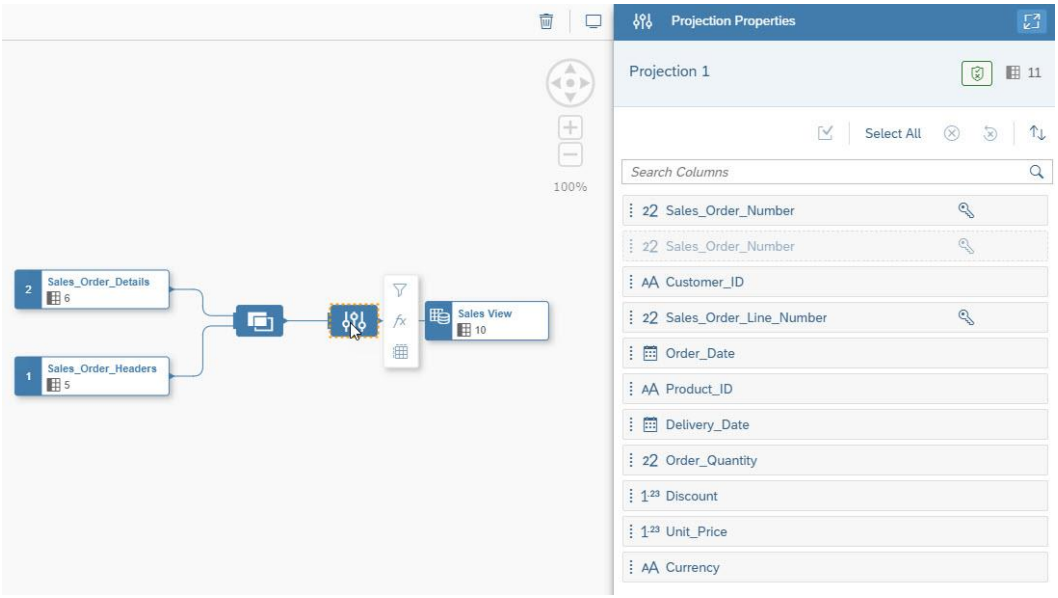


25. Both tables have been joined based on the previously defined Entity Relationship Model.
26. Click on the first symbol next to the two tables for the Join Properties.

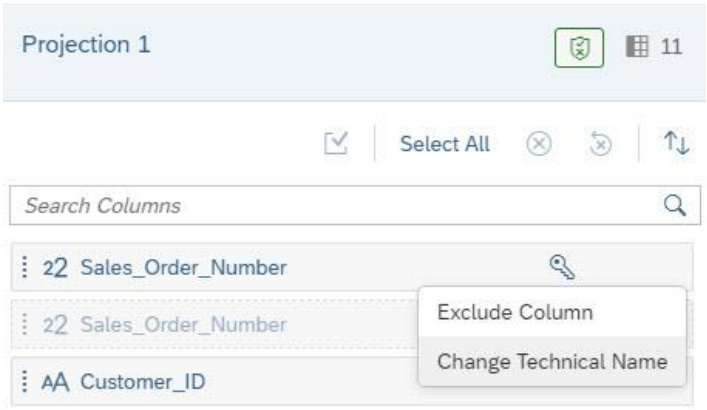


27. Here you can define which columns are being used for the join and you can define the Join Type.

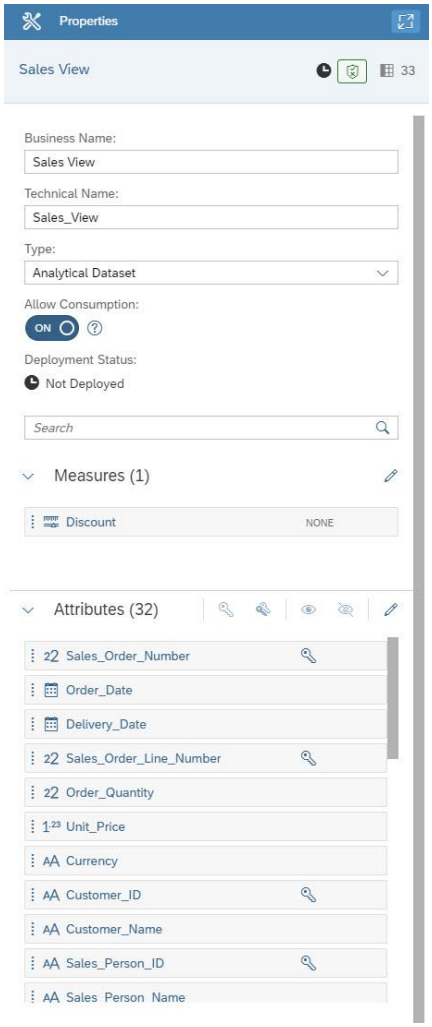
28. Possible Join Types are:
    - Inner Join: The Inner Join will select the set of records that match in both tables.
    - Left Join: The Left join selects the complete set of records from the first table with the matching records from the second table.
    - Right Join: The Right join selects the complete set of records from the second table with the matching records from the first table.
    - Full Join: The Full join combines the results of the Left Join and Right Join and returns all rows from the tables on both sides of the join.
    - Cross Join: The Cross join will create every possible combination (cartesian product) of rows from the first and second table. The joined table will contain a row of all columns in table 1 followed by all columns in table 2.
    - Natural Join: The Natural join will create an implicit join based on the common columns in the two tables.
29. You also have the option to add additional Filter and add Calculated Columns.
30. Set the Join Type to Inner.
31. Click on the second symbol for the Projection Properties.



32. In the Projection Properties you have the ability to Hide and Rename columns.



33. Now click on the overall output projection, in our example Sales View.
34. Ensure the Details option (top right corner) is enabled.
35. Navigate to the Properties of the Sales View.



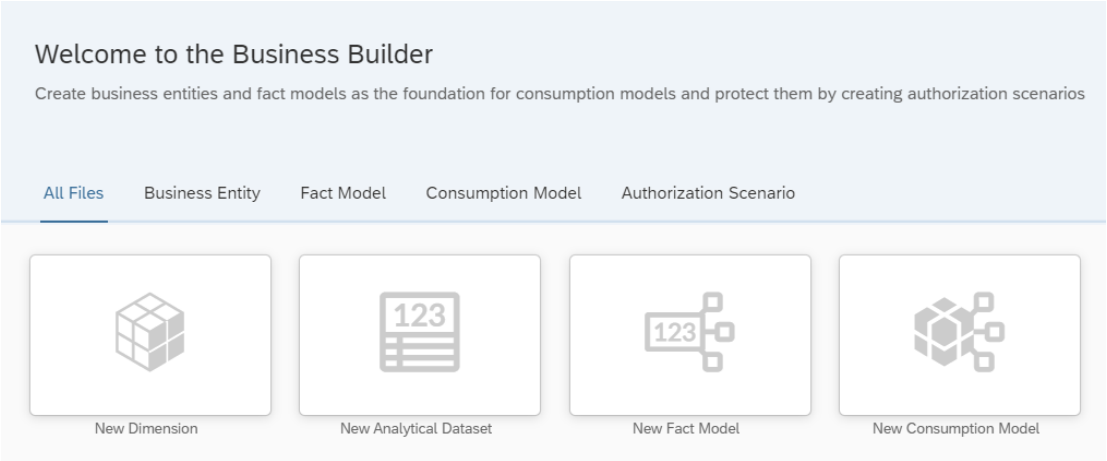
36. Our overall Sales View now contains all the columns from the joined tables as we have not removed or hidden any of them. In addition, we also will have to configure, which columns should be treated as Measures.
37. In the list of Attributes, select the following columns and use the context menu to change them to Measures:
    - Order Quantity
    - Unit Price
38. Regarding the list of columns available in the Attributes, we will leave all of them visible.
39. Save your View.
40. You will be asked to confirm the Business Name and Technical Name.
41. Click Save.
42. Deploy your View.

4 SAP DATA WAREHOUSE CLOUD – BUSINESS LAYER EXERCISES

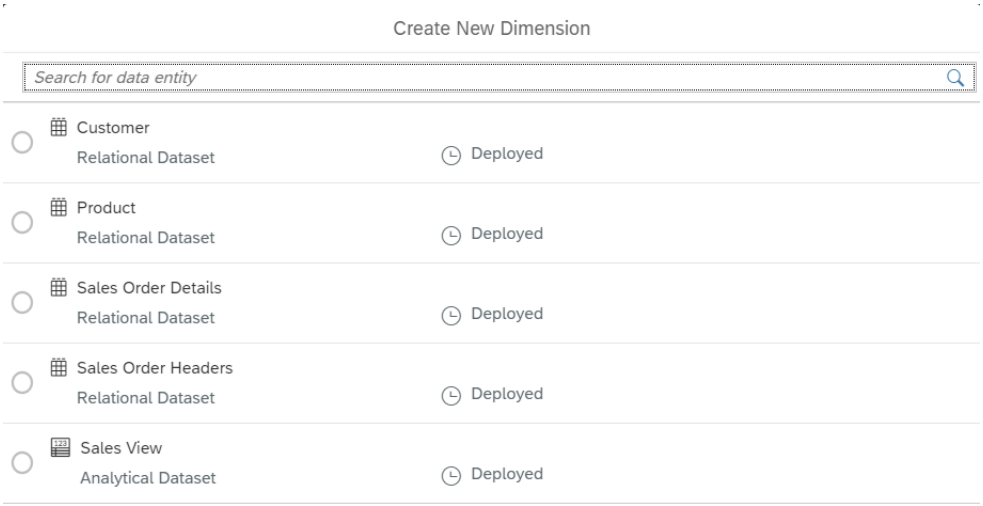
4.1 SAP Data Warehouse Cloud – Business Layer Exercises 01: Dimension

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.

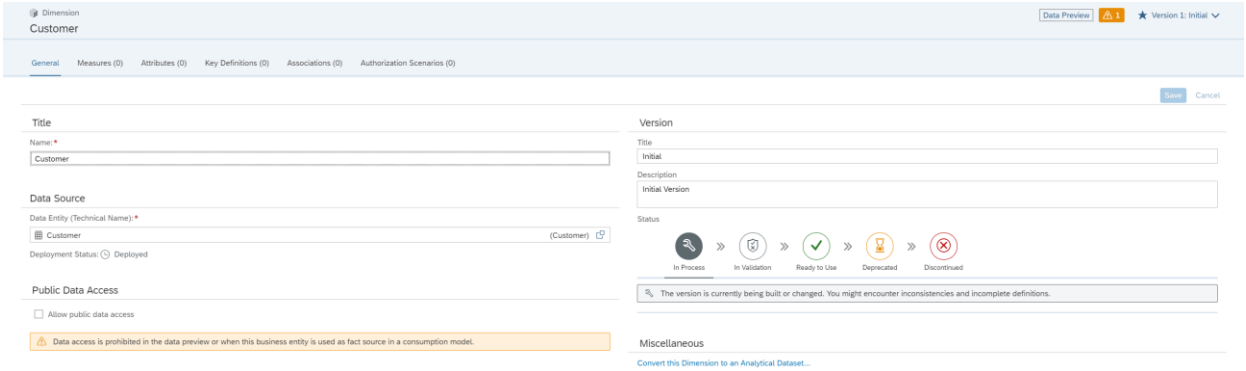
1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Business Builder on the left-hand side.
3. In case you are being asked, select the Space you created previously.



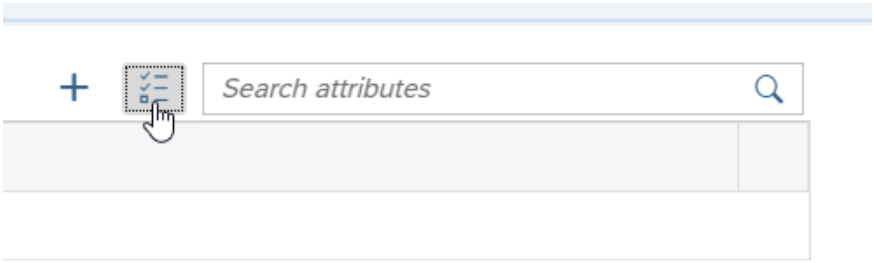
4. Select the option Business Entity.
5. Select the option New Dimensions.



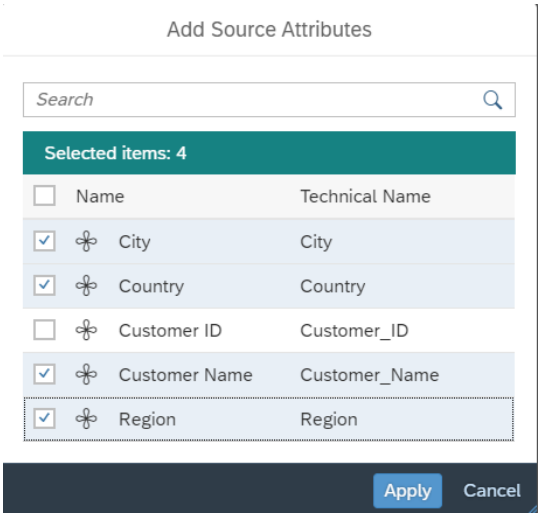
6. Select the entry Customer.
7. Click Create.



8. Ensure the Title is set to Customer.
9. Enable the option Allow public data access.
10. Click Save (top right corner).
11. Navigate to the tab Attributes.
12. Use the option Use Source Attributes (second icon on the right hand side).

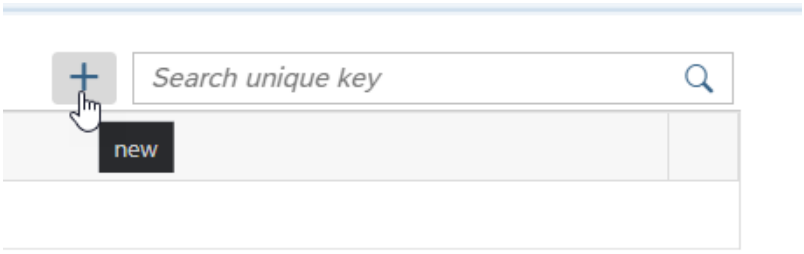


13. Select the following Attributes:
    - City
    - Country
    - Region
    - Customer Name

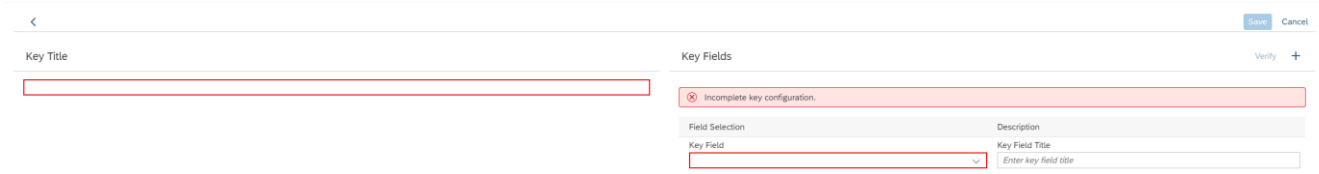


14. Click Apply.
15. Navigate to the tab Key Definitions.

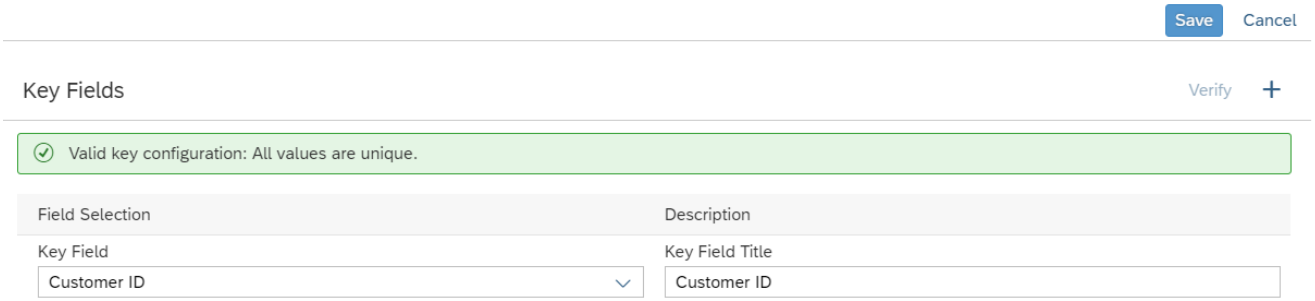
16. Use the “+” sign on the right hand side to create a new key definition.



17. You can now specify the Key column for the dimension.

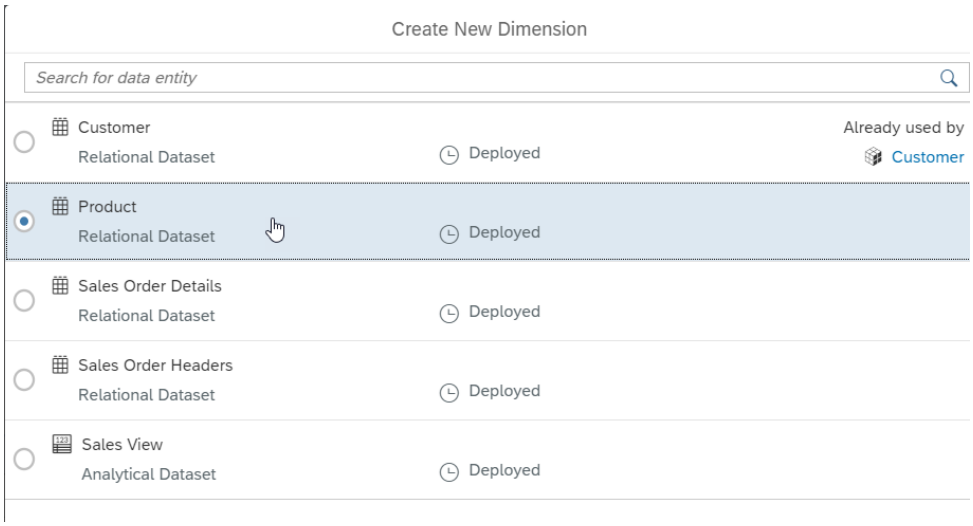


18. Enter Customer ID as Key Title.
19. Select the column Customer ID as Key Field.
20. Enter Customer ID as Key Field Title.
21. Click Verify.

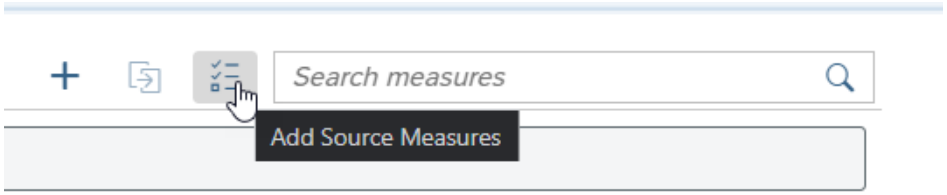


22. Click Save.
23. Click on the Home icon to go back to the Home Screen.
24. Select the menu option Business Builder on the left-hand side.
25. In case you are being asked, select the Space you created previously.
26. Select the option Business Entity.

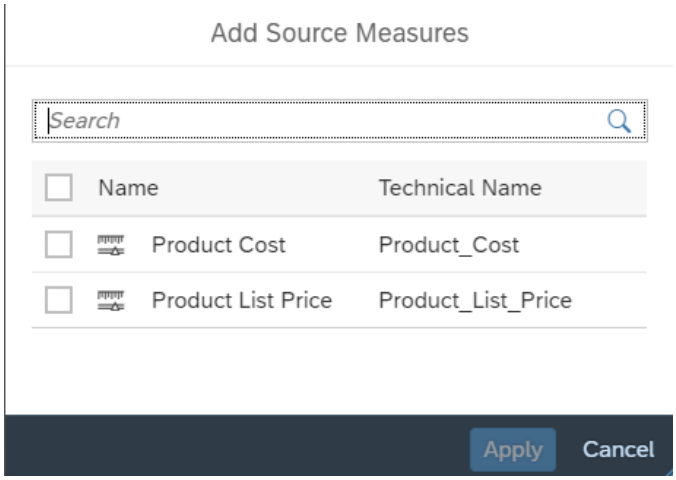
27. Click New Dimension.



28. Select the entry Product.
29. Click Create.
30. Ensure Product is entered as Title.
31. Enable the option Allows public data access.
32. Click Save (top right).
33. Navigate to the tab Measures.
34. Use the option Use Source Measures.

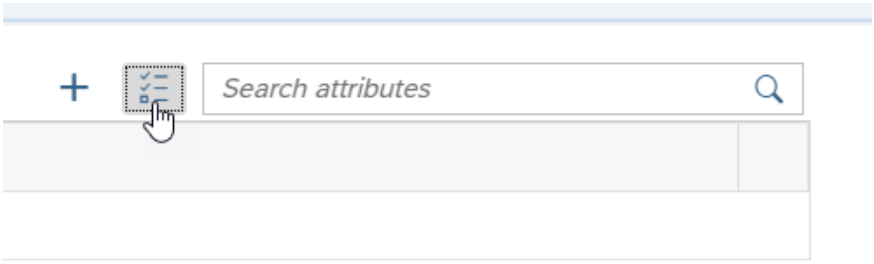


35. Select measure(s) Product Cost and Product List Price.



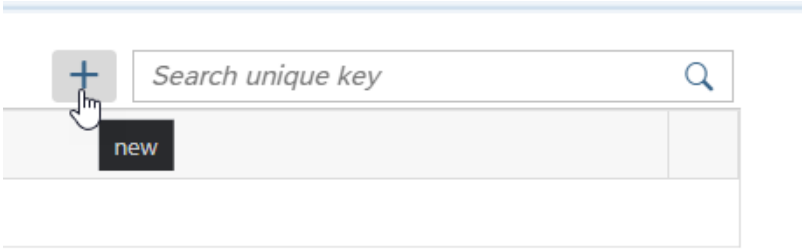
36. Click Apply.
37. Navigate to the tab Attributes.

38. Use the option Use Source Attributes (second icon on the right hand side).

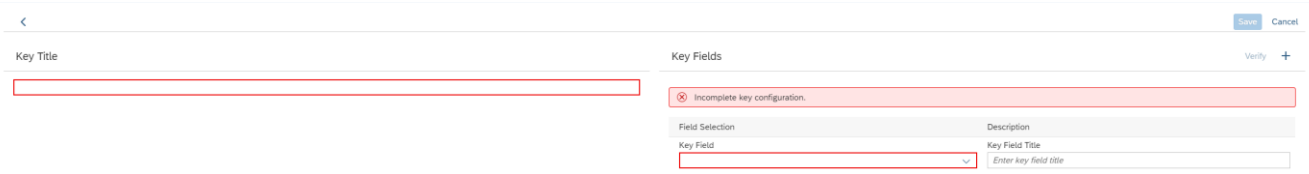


39. Select the following Attributes:
    - Product Category
    - Product Description

40. Click Apply.
41. Navigate to the tab Key Definitions.
42. Use the “+” sign on the right hand side to create a new key definition.



43. You can now specify the Key column for the dimension.

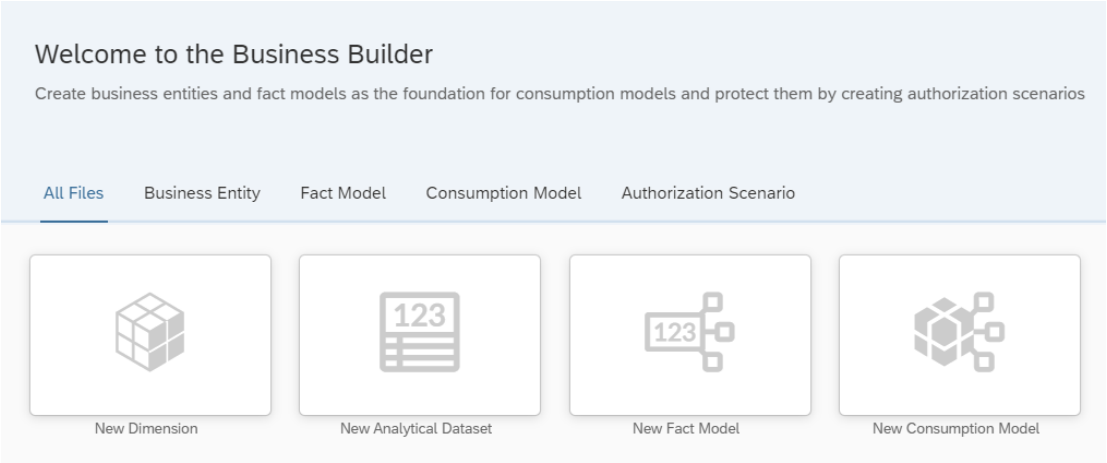


44. Enter Product ID as Key Title.
45. Select the column Product ID as Key Field.
46. Enter Product ID as Key Field Title.
47. Click Verify.
48. Click Save.
49. Click on the Home icon to go back to the Home Screen.

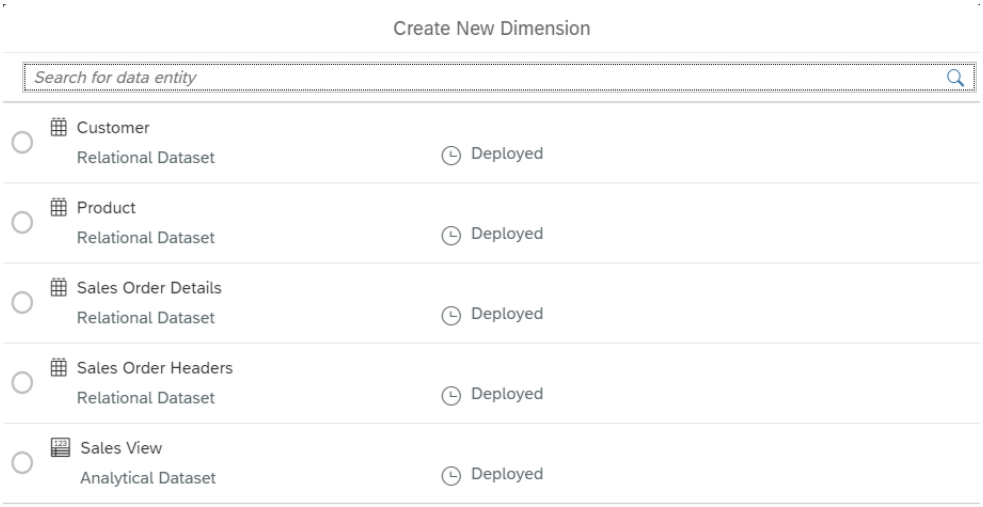
4.2 SAP Data Warehouse Cloud – Business Layer Exercises 02: Analytical Data Set

At this point we created the two dimensions and will now create the analytical data set and then associate the dimension with the data set.

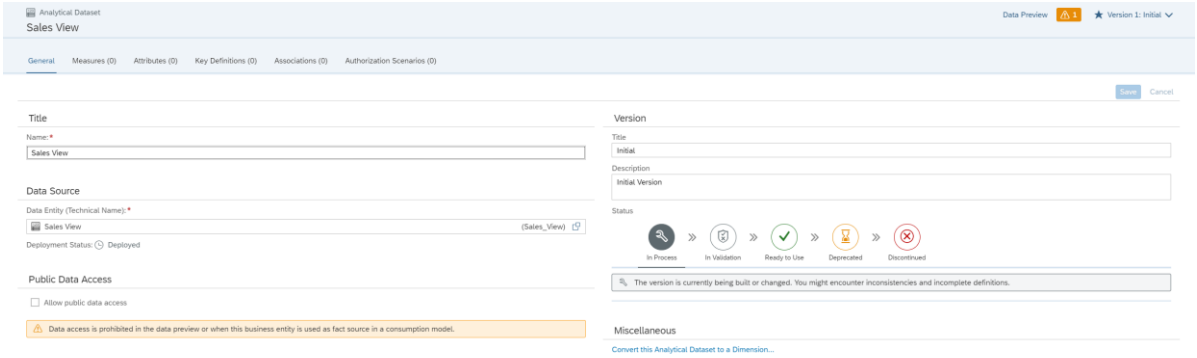
1. Select the menu option Business Builder on the left-hand side.
2. In case you are being asked, select the Space you created previously.



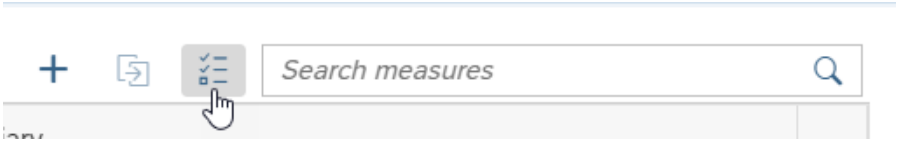
3. Select the option Business Entity.
4. Select the option New Analytical Dataset



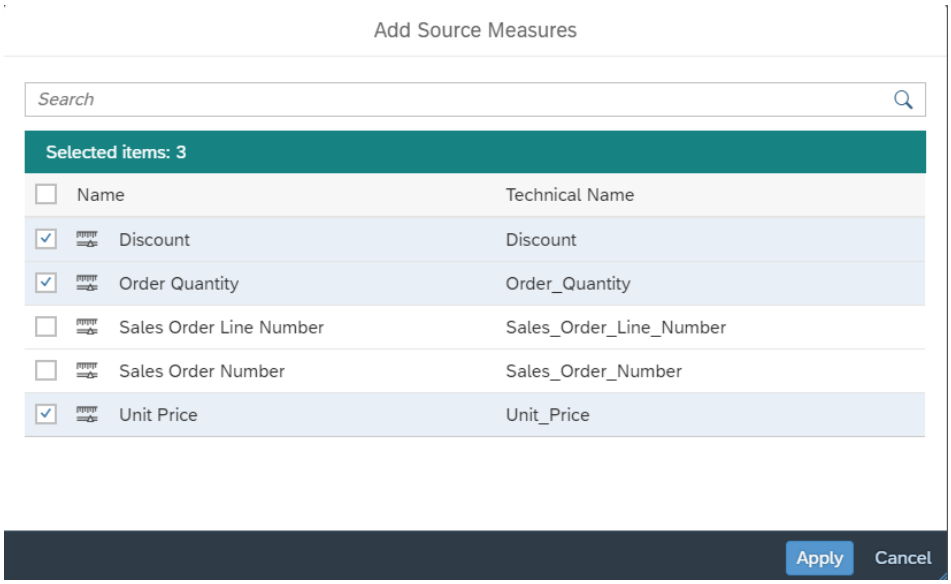
5. Select the Sales View
6. Click Create.



7. Ensure the name is set to Sales View (Business Layer).
8. Enable the option Allow public data access.
9. Click Save (top right).
10. Navigate to the tab Measures.
11. Use the option Add Source Measures.

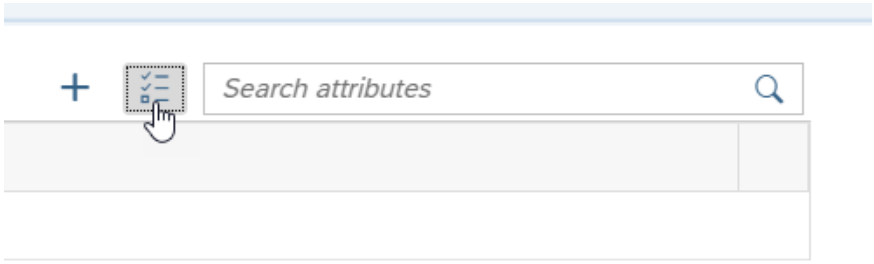


12. Select the following entries:
    - Discount
    - Order Quantity
    - Unit Price.

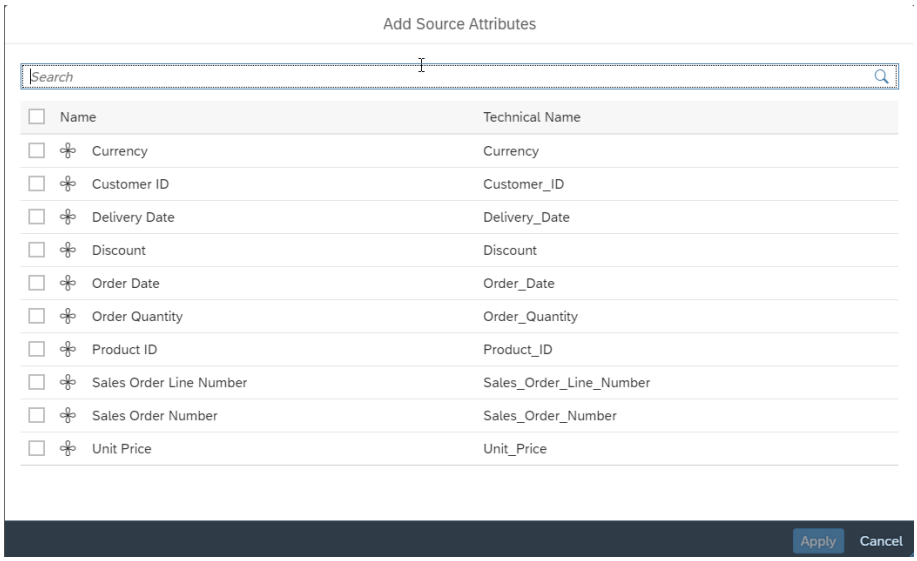


13. Click Apply.
14. Navigate to the tab Attributes.

15. Use the option Use Source Attributes (second icon on the right hand side).

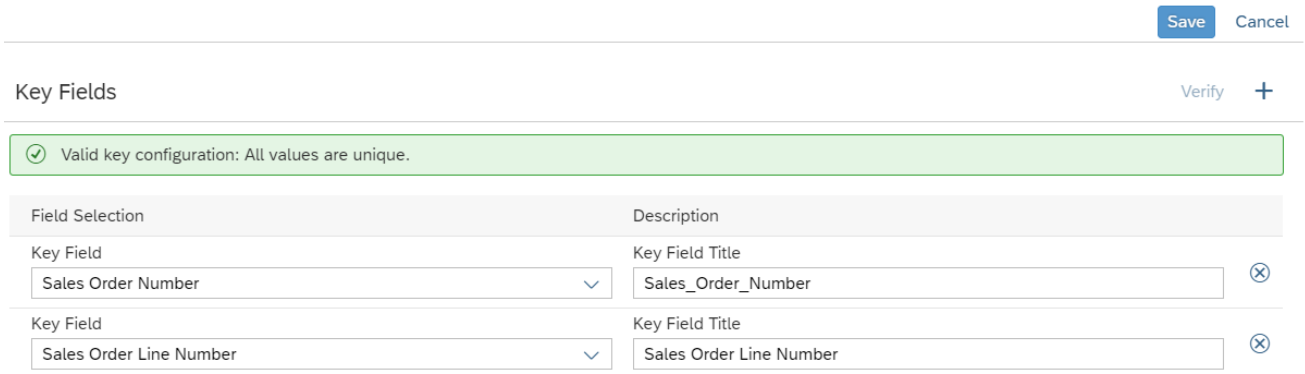


16. Select the following Attributes:
    - Sales Order Number
    - Sales Order Line Number
    - Order Date
    - Delivery Date
    - Currency

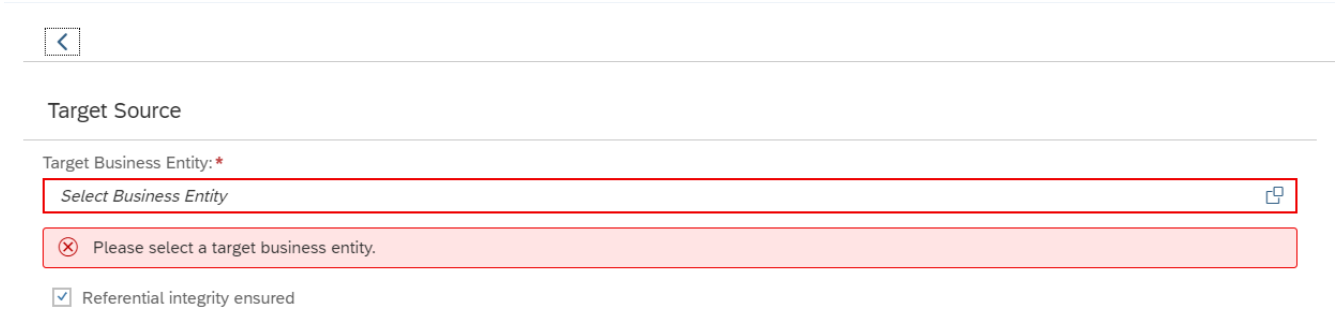


17. Click Apply.
18. Navigate to the tab Key Definitions.
19. Use the “+” sign on the right-hand side to add a new Key Definition.
20. Enter Sales Orders as Key Title.
21. Select Sales Order Number as first Key Field.
22. Enter Sales Order Number as Key Field Title.
23. Click the “+” sign to add a second Key Field.
24. Select Sales Order Line Number as second Key Field.
25. Enter Sales Order Line Number as Key Field Title.

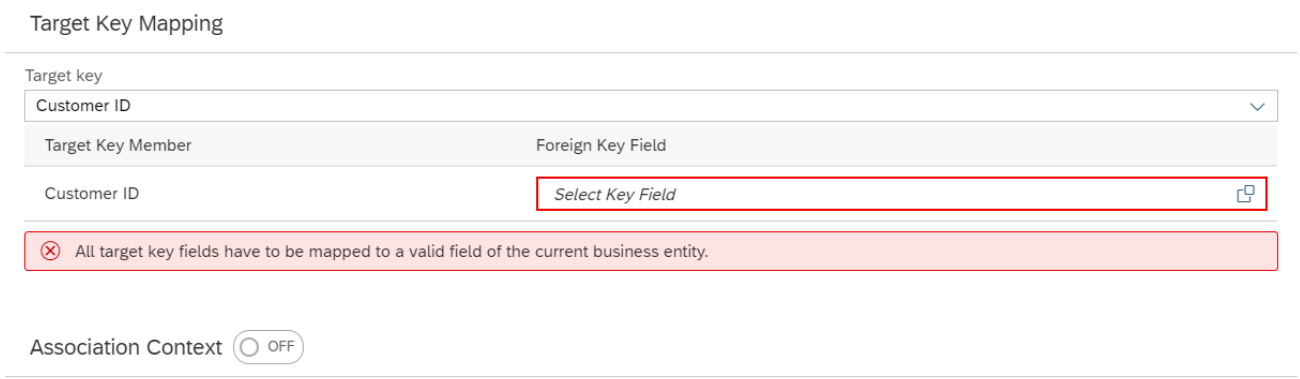
26. Click Verify.



27. Click Save.
28. Navigate to the tab Associations.
29. Click the “+” sign in the top right to add a new Association.



30. Open the list of Business Entities.
31. Select the entry Customer.
32. Click Apply.



33. Open the list of fields for the Foreign Key Field.
34. Select the column Customer ID.
35. Click Save.

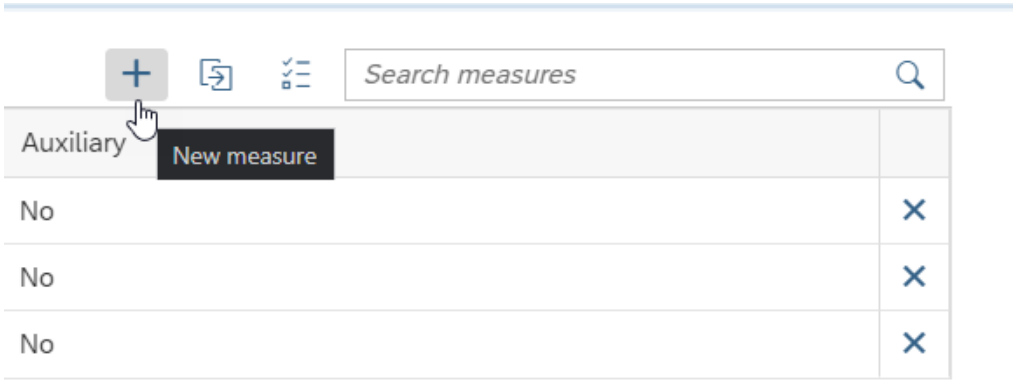
36. Click the “+” sign to add another Association.
37. Open the list of Business Entities.
38. Select the entry Product.
39. Click Apply.
40. Open the list of fields for the Foreign Key Field.
41. Select the column Product ID.
42. Click Save.

4.3 SAP Data Warehouse Cloud – Business Layer Exercises 03: Adding Calculations

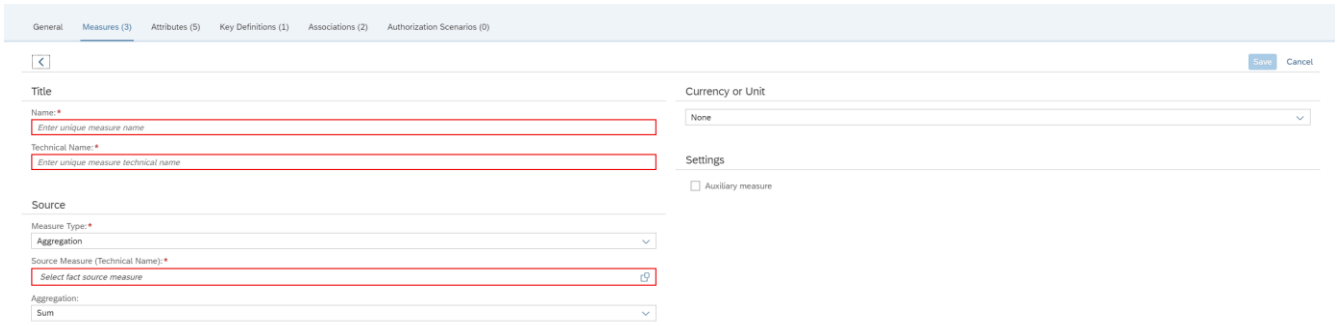
At this point we created the analytical data set and we want to add a few calculations to the business layer, before we then add the consumption layer and create our SAP Analytics Cloud Story.

In case you still have the business layer open from the previous step, then you can continue with the first step. In case you did close the screen, please navigate to the Business Layer and open the analytical data set Sales View (Business Layer).

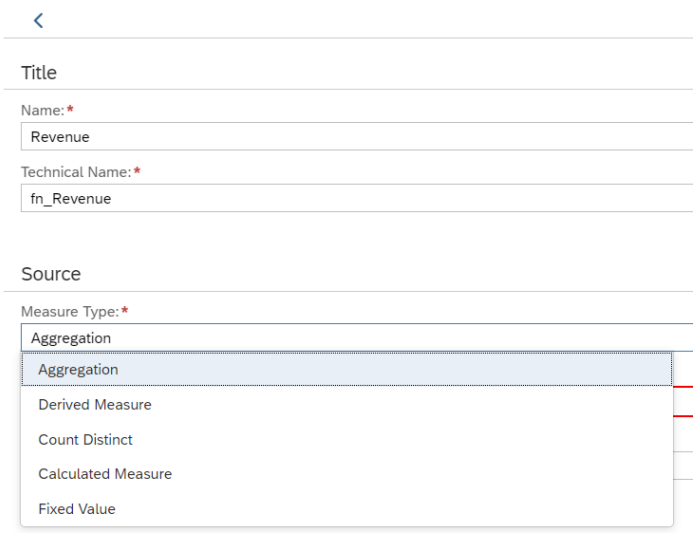
1. Select the menu option Business Builder on the left-hand side.
2. In case you are being asked, select the Space you created previously.
3. Open the Analytical Dataset called Sales View (Business Layer).
4. Navigate to the tab Measures.



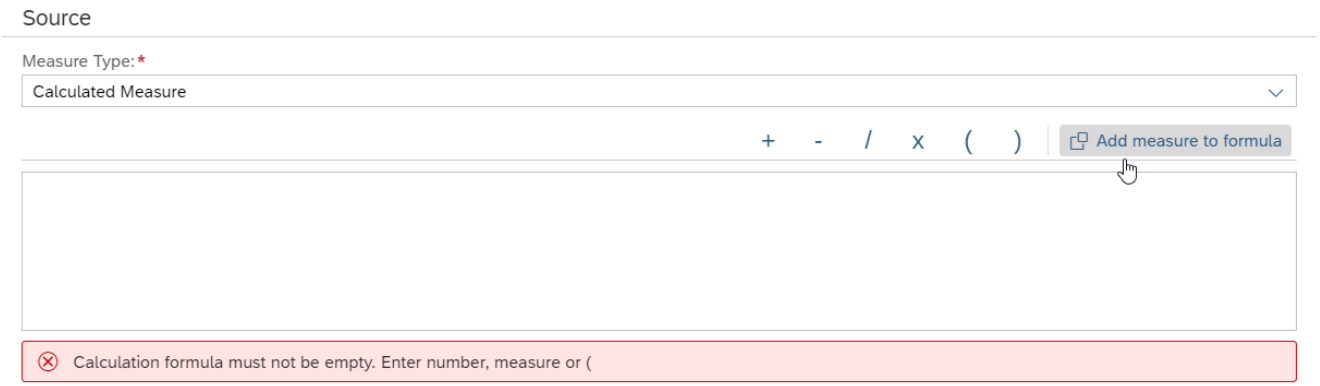
5. Use the “+” sign on the right-hand side to create a new measure.



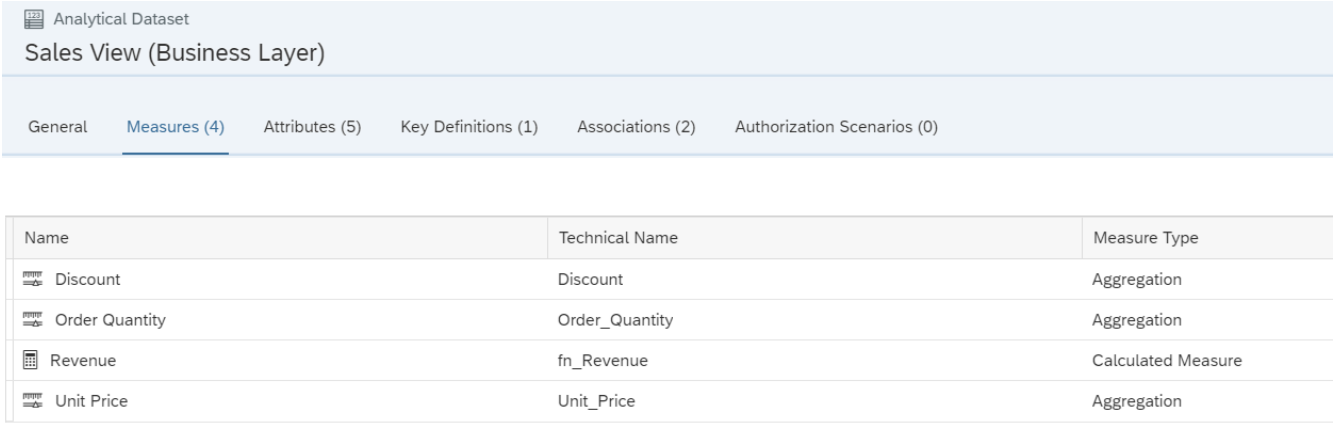
6. For the Name enter Revenue.
7. For the Technical Name enter fn_Revenue
8. For the option Measure Type select the option Calculated Measure.



9. Click Add Measure to formula.



10. Select Order Quantity.
11. Enter “*” for the multiply.
12. Click Add Measure for formula.
13. Select Unit Price.
14. Click Save.



15. Use the “+” sign on the right-hand side to create a new measure.

16. For the Name enter Revenue with Discount
17. For the Technical Name enter fn_Revenue_with_Discount
18. For the option Measure Type select the option Calculated Measure.
19. Click Add Measure to formula.
20. Select Order Quantity.
21. Enter “*” for the multiply.
22. Click Add Measure for formula.
23. Select Unit Price.
24. Place brackets () around the calculation.
25. Add the following to the calculation:

    * (1- Discount)

26. Your complete formula should look like this:

    (Order Quantity * Unit Price) * (1- Discount)

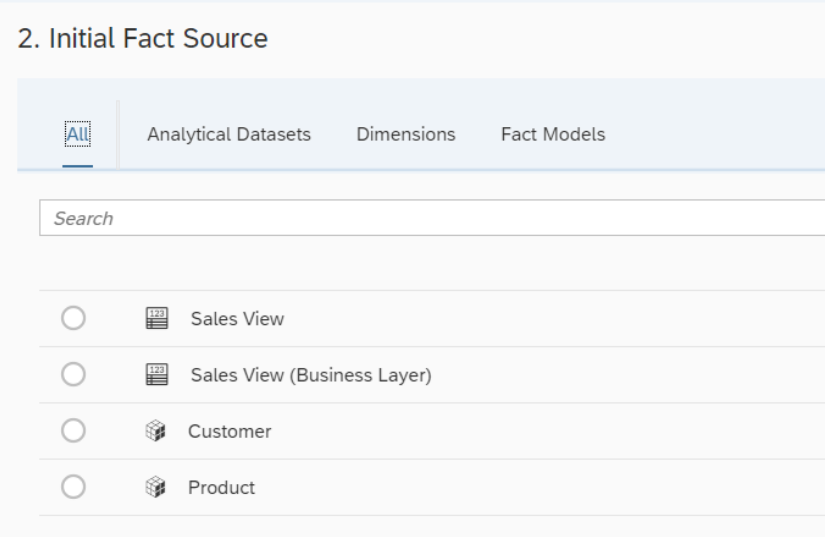
27. Click Save.
28. Use the “+” sign on the right-hand side to create a new measure.
29. For the Name enter Average Discount.
30. For the Technical Name enter Average_Discount.
31. For the option Measure Type select the option Aggregation.
32. Open the list of measures for the option Source Measure (Technical Name).
33. Select measure Discount.
34. Set the Aggregation to the option Average.
35. Click Save.

We now added the overall revenue, as well as the revenue with discount and the average discount to our business layer. In the next step we will create the consumption view.

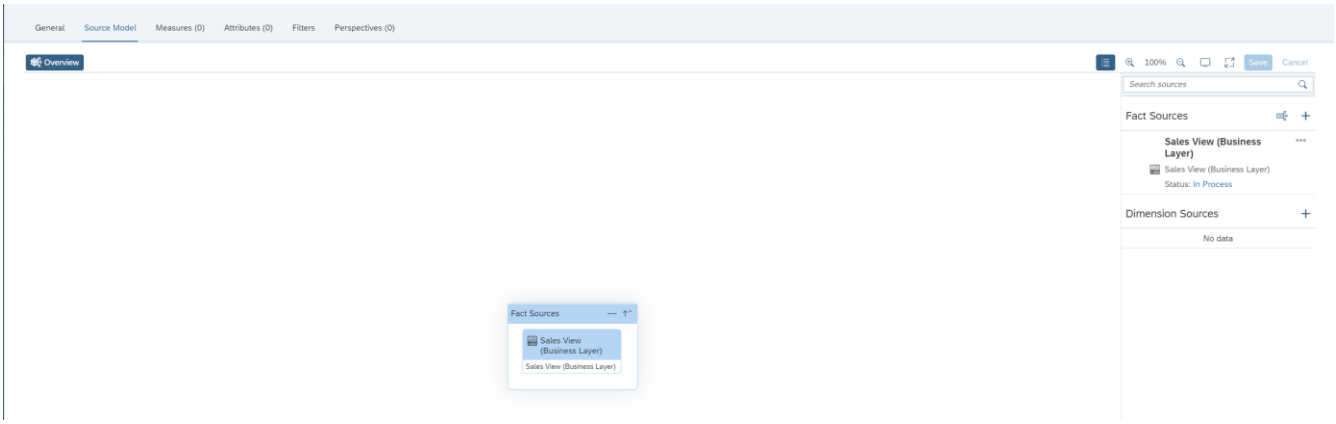
4.4 SAP Data Warehouse Cloud – Business Layer Exercises 04: Consumption Layer

In the previous steps we created the dimension, the analytical data set, and the calculations. In this step we will create the consumption layer for our analytical story.

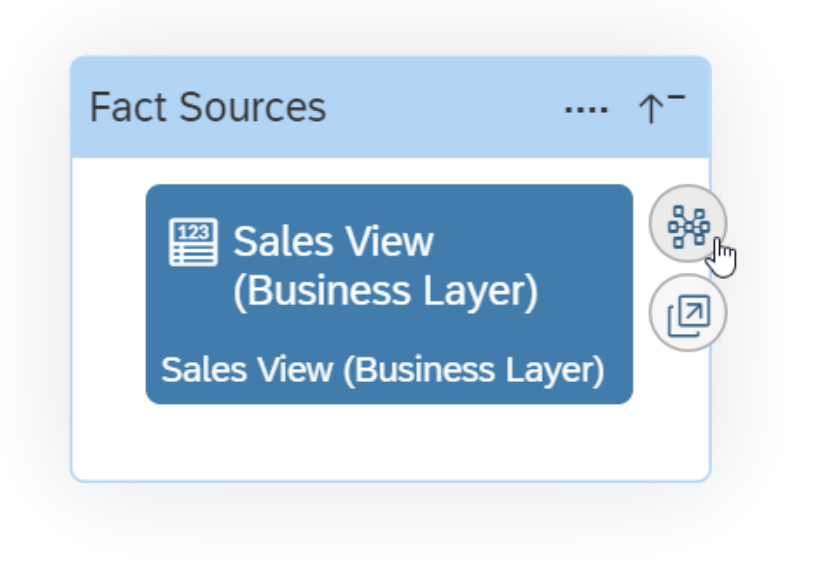
1. Select the menu option Business Builder on the left-hand side.
2. In case you are being asked, select the Space you created previously.
3. Select the option New Consumption Model.
4. Enter Revenue by Customer and Product as Title.
5. Click Step 2.



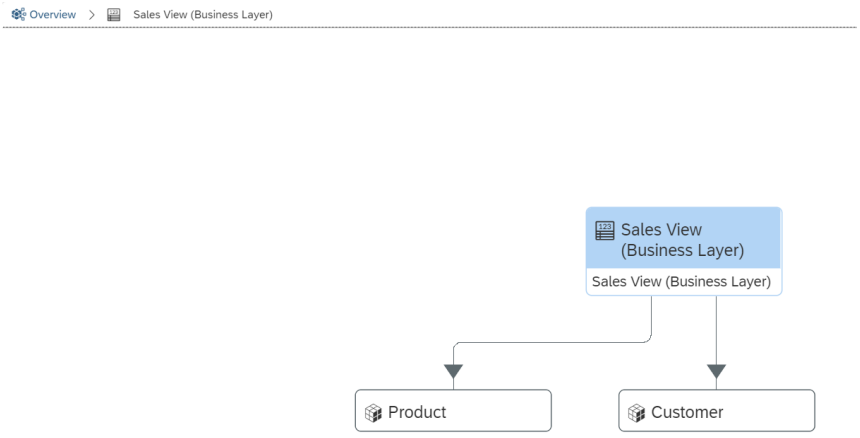
6. Select the entry Sales View (Business Layer).
7. Click Create.



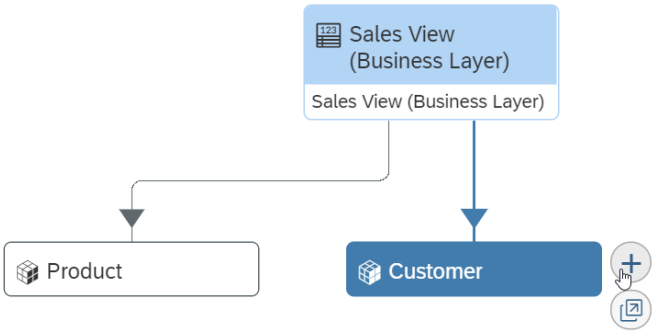
8. Select the Fact Sources object (outer frame).
9. Select the Sales View (Business Layer) object inside.



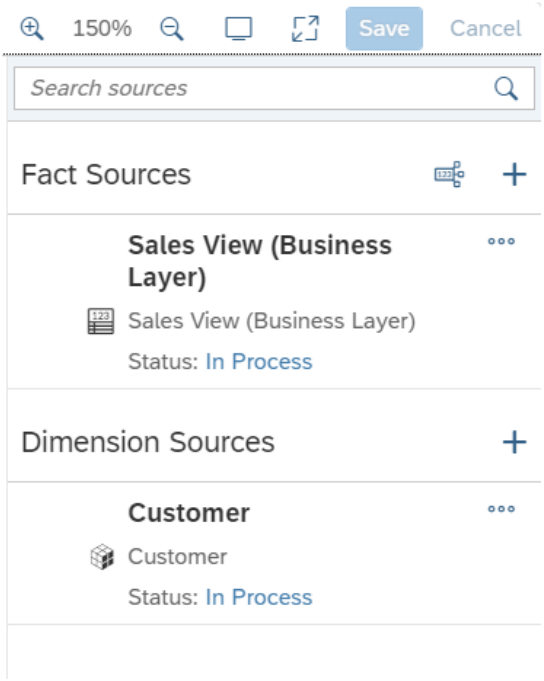
10. Click on the top icon – Show Source Graph.



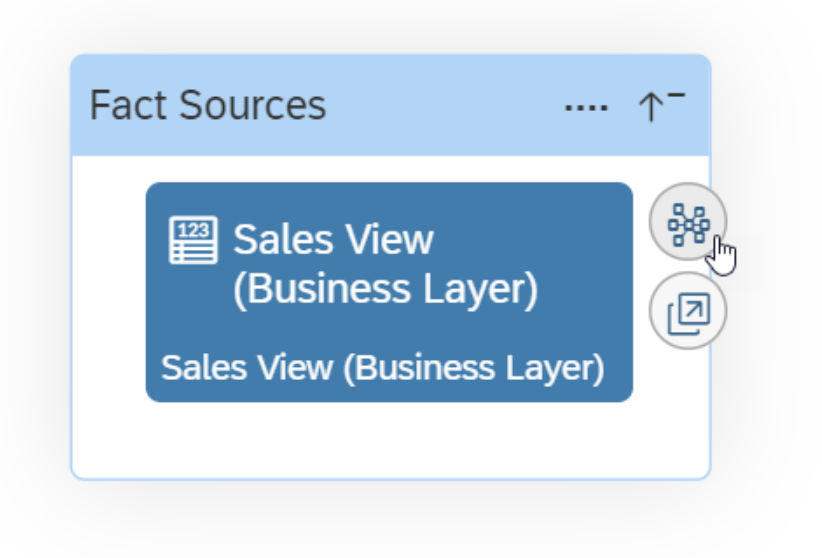
11. Select the object for dimension Customer.
12. Use the “+” icon for the option Add Source Context.



13. For the Define Alias option, click Create.

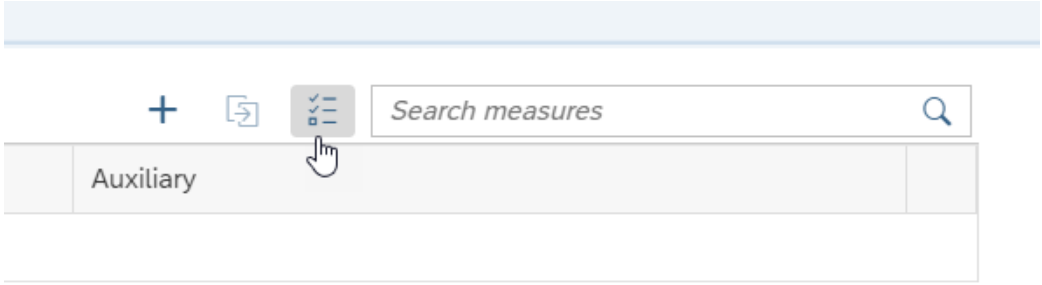


14. On the right-hand side you should now see the dimension Customer being listed under the category Dimension Sources.
15. Select the Fact Sources object (outer frame).
16. Select the Sales View (Business Layer) object inside.

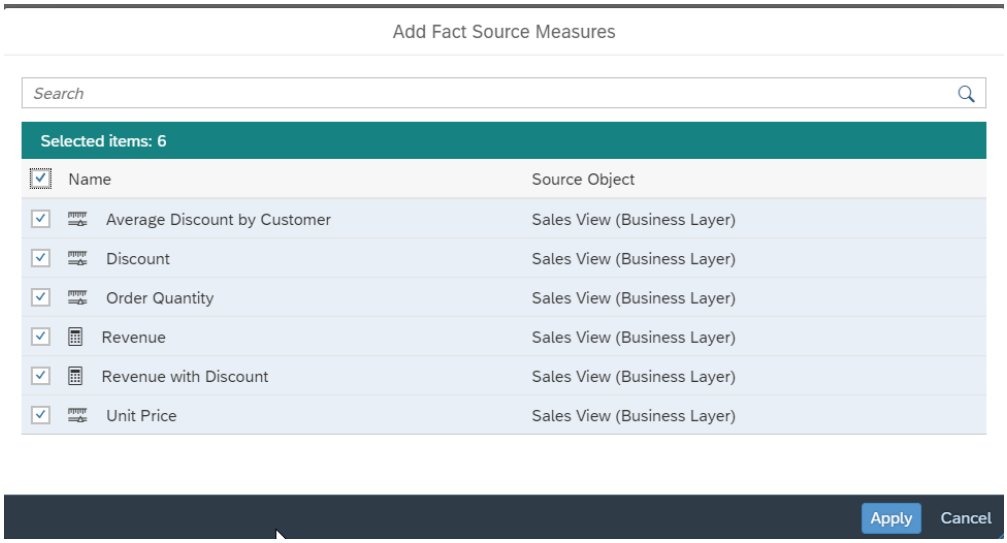


17. Click on the top icon – Show Source Graph.
18. Select the object for dimension Product.
19. Use the “+” icon for the option Add Source Context.
20. For the Define Alias option, click Create.
21. On the right-hand side you should now see the dimension Customer and dimension Product being listed under the category Dimension Sources.

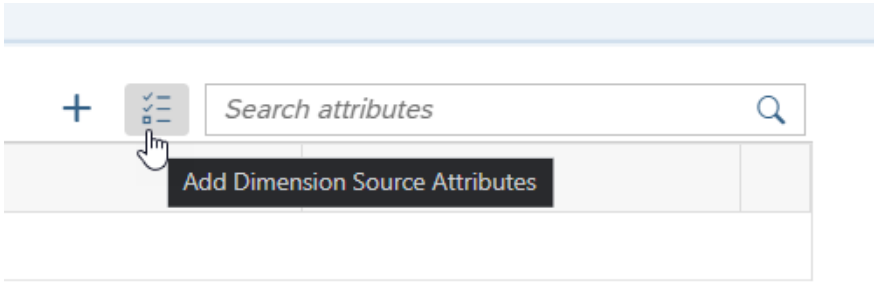
22. Navigate to the tab General.
23. Enable the option Allow public data access.
24. Click Save.
25. Navigate to the tab Measures.
26. Select the option Add Fact Source Measures.



27. Select all measures.

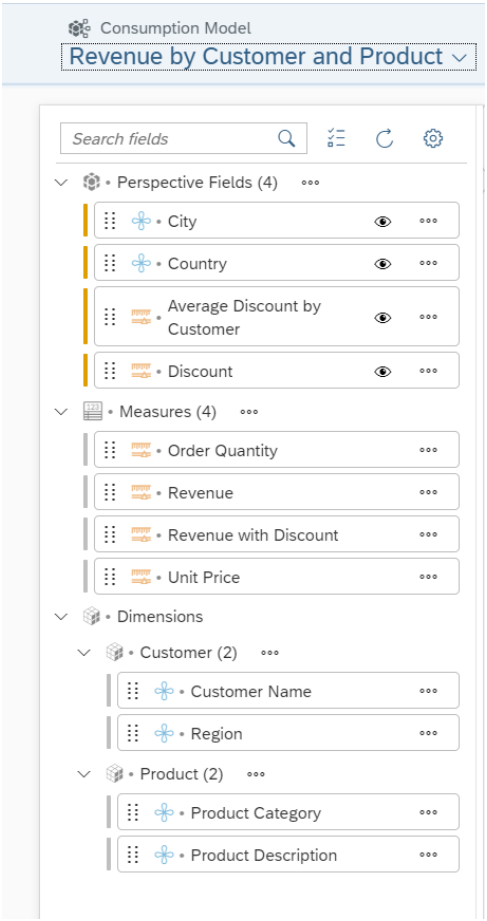


28. Click Apply.
29. Navigate to the tab Attributes.
30. Select the option Add Dimension Source Attributes.

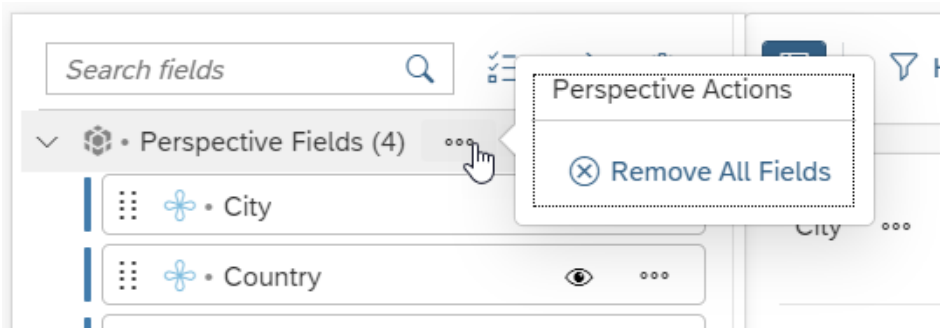


31. Select all dimensions.
32. Click Apply.
33. Navigate to the tab Perspectives.

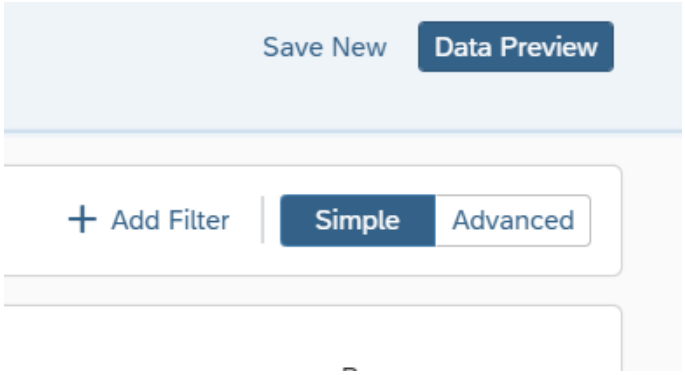
34. Use the “+” sign (top right) to create a new perspective.



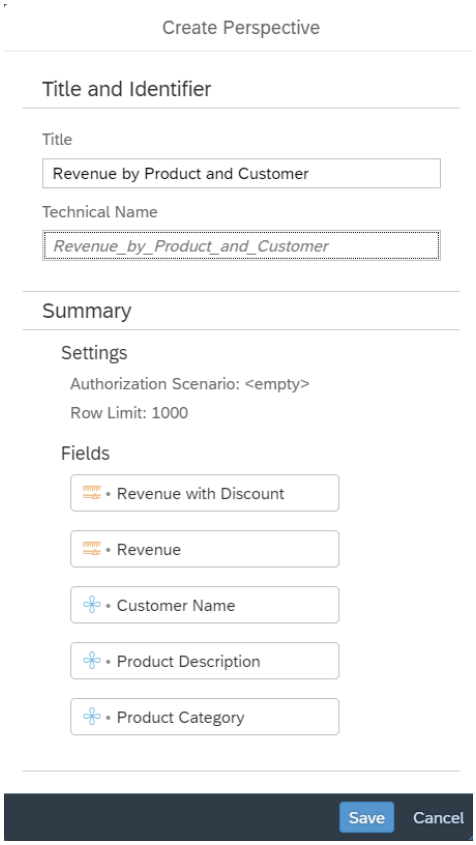
35. Open the context menu for the Perspective Fields header.



36. Select the option Remove All Fields.
37. Drag and Drop the Customer Name to the Perspective Fields.
38. Drag and Drop the Product Description to the Perspective Fields.
39. Drag and Drop the Product Category to the Perspective Fields.
40. Drag and Drop the Revenue to the Perspective Fields.
41. Drag and Drop the Revenue with Discount to the Perspective Fields.
42. Click Save New (top right corner).



43. Enter Revenue by Product and Customer as Title.

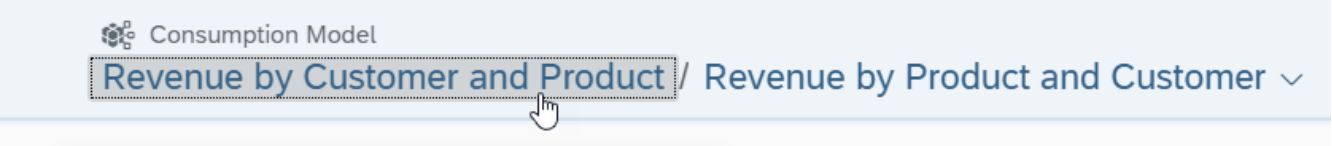


44. Click Save.

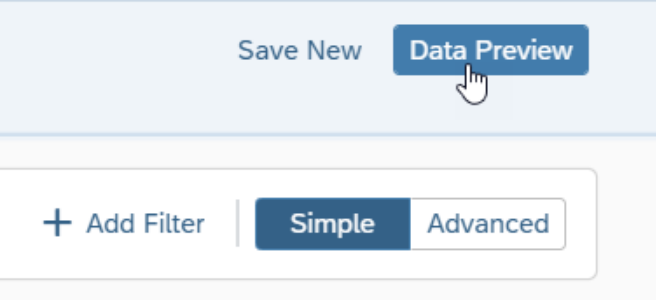
We created the first perspective and will create a second perspective for the average discount.

45. Open the context menu for the Perspective Fields header.
46. Select the option Remove All Fields.
47. Drag and Drop the Customer Name to the Perspective Fields.
48. Drag and Drop the Product Description to the Perspective Fields.
49. Drag and Drop Average Discount to the Perspective Fields.
50. Click Save As (top right corner).

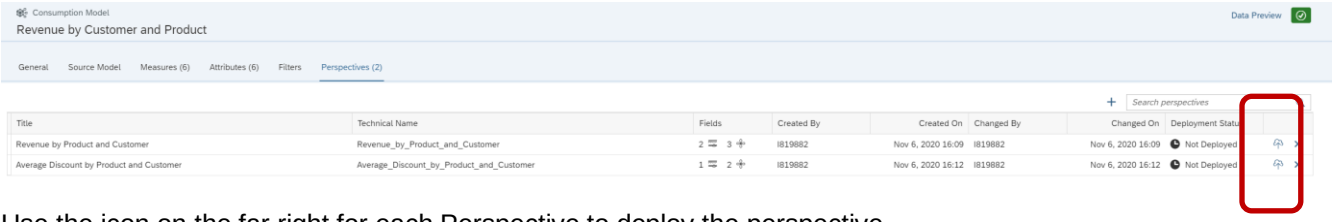
51. Enter Average Discount by Product and Customer as Title.
52. Click Save.
53. Click on the name of the Consumption Model in the top.



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



55. Navigate to the tab Perspectives.



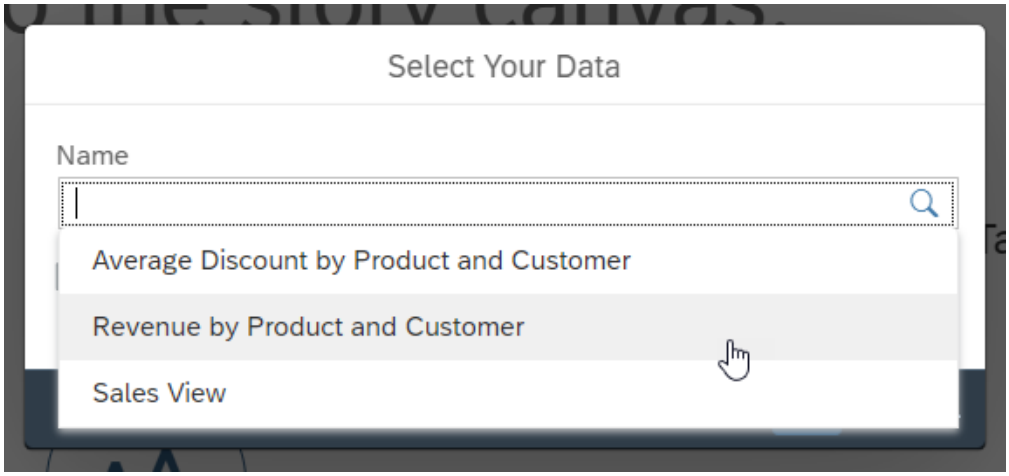
56. Use the icon on the far right for each Perspective to deploy the perspective.

5 SAP ANALYTICS CLOUD – EXERCISES

5.1 SAP Analytics Cloud – Exercise 01: Consuming Business Layer

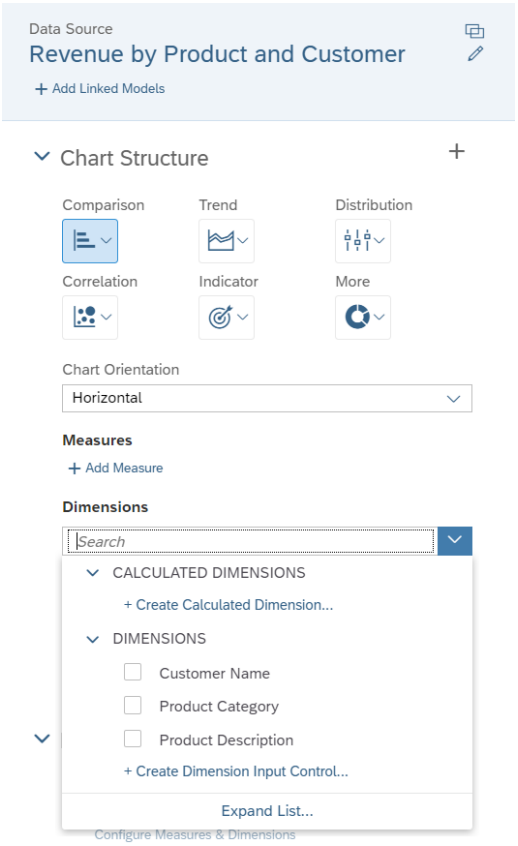
In the previous exercises we create the view in the data builder and we created the consumption layer with two perspectives. In the next set of steps, we will us SAP Analytics Cloud and connect to the perspectives that we created previously.

1. Log On to your SAP Data Warehouse Cloud tenant.
2. Select the menu option Story Builder on the left-hand side.
3. In case you are being asked, select the Space you created in the previous exercise.
4. Click Create Story.
5. When being asked to select the data source, select the perspective Revenue by Product and Customer.

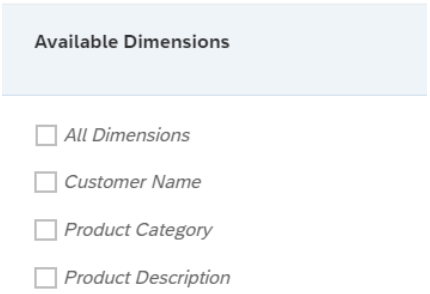


6. Click OK.
7. Select the option to add a Chart.
8. In our example, we want to know the Total Sales Revenue by Customer and by Product. So instead of creating two different charts, with the dimension that is used for aggregation being the only difference, we will setup a Dimension Input Control for the chart, so that the user would be able to choose.
9. Navigate to the Builder Panel on the right-hand side.

10. Click on Add Dimension for the Dimensions area and scroll down the list.



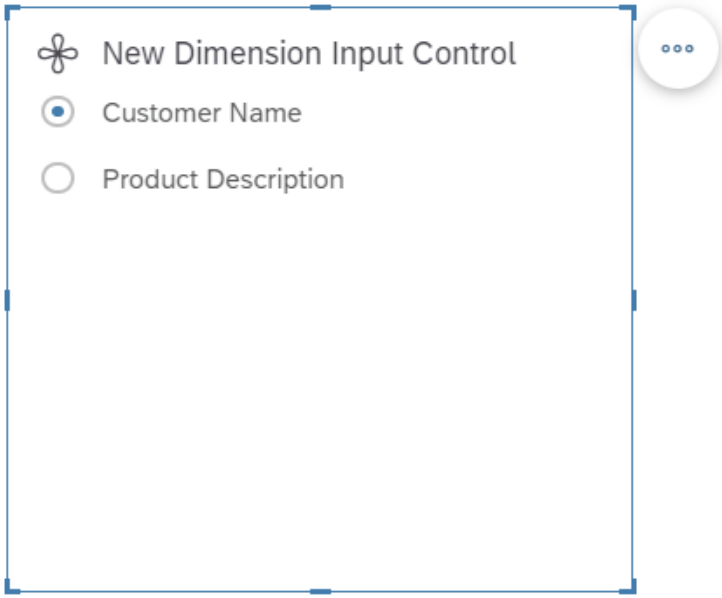
11. Select the option Create Dimension Input Control.



12. Select the dimensions: Customer Name and Product Description.
13. Click OK.

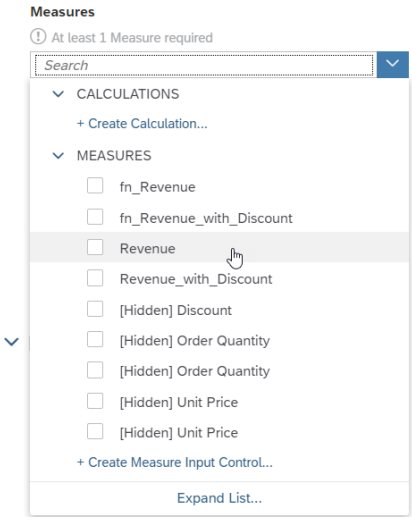
14. You will receive a new token as part of your page, and you can use the controls on the box to resize the Dimension Input Control.

15. Resize the new Dimension Input Control, so that you can see all two options.

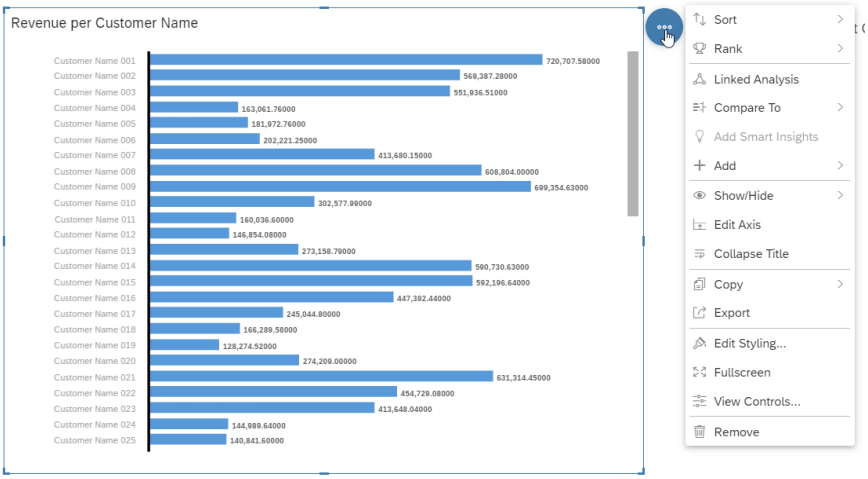


16. Select the chart on your canvas.
17. Navigate to the Builder Panel on the right-hand side.
18. Click Add Measures for the Measures option.

19. Select the entry Revenue.



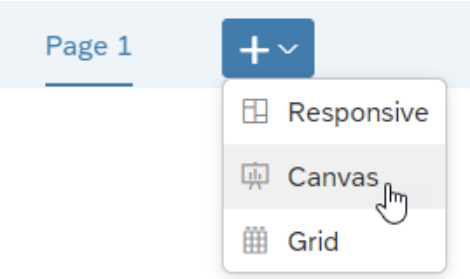
20. Now open the chart menu in the top right corner of the chart.



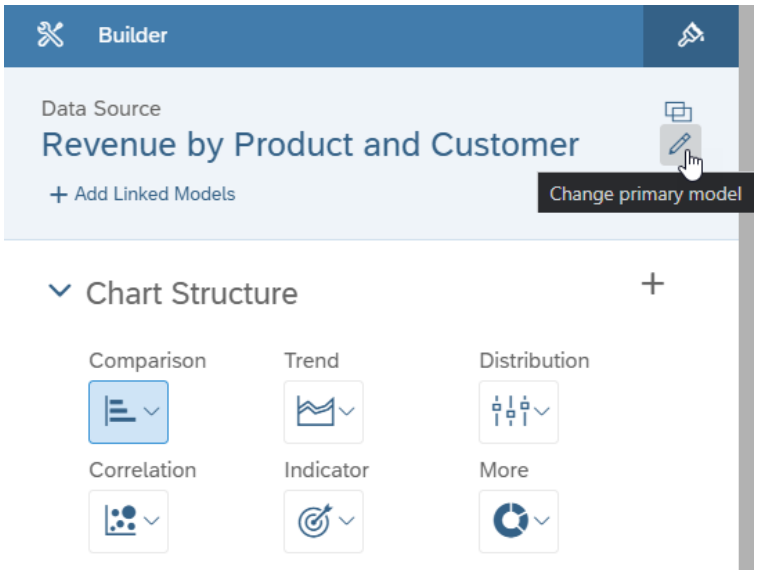
21. Select the menu Sort.
22. Select the option Revenue > Highest to Lowest.

You know have the option to re-use the calculation we did within the Consumption Layer of SAP Data Warehouse Cloud within SAP Analytics Cloud, and you have the option to switch between the different dimensions for the chart.

23. Use the option to add another page to your story.

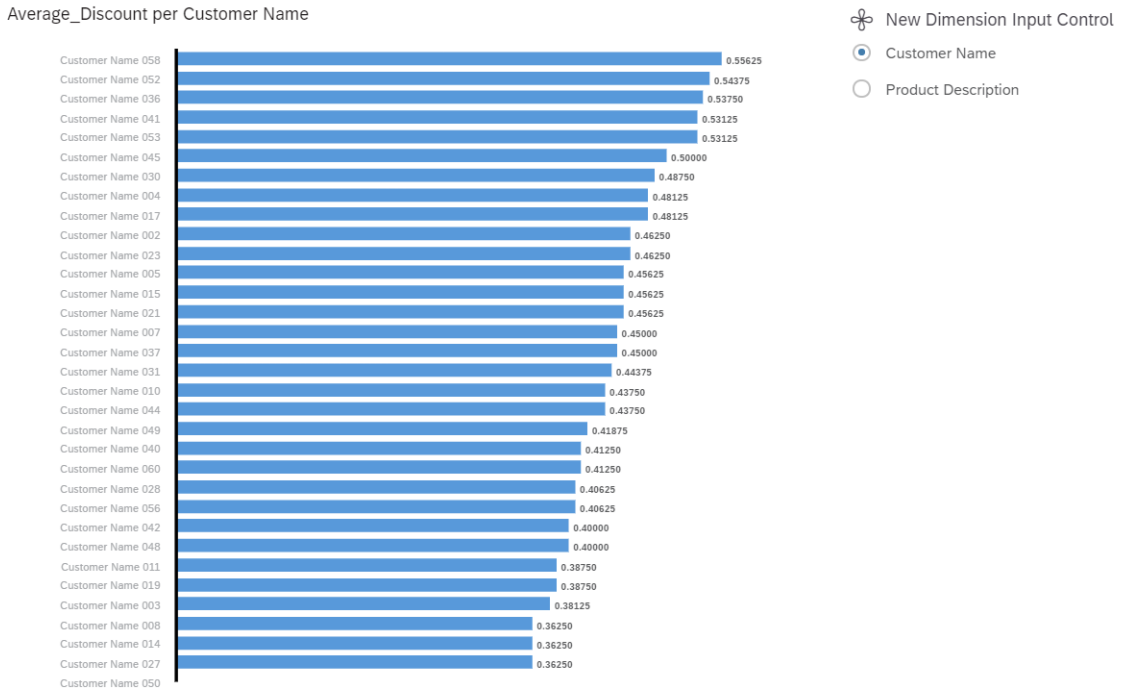


24. Select the option Canvas.
25. Select the option to add a new Chart to the page. By default the chart will be added with the previously used perspective, so we have to switch the source to our second perspective.
26. Navigate to the Builder Panel.
27. Use the pencil in the top of the Builder Panel, next to the name of the data source.



28. Click on the pencil icon to change the data source.
29. Select the perspective Average Discount by Product and Customer.
30. Click OK.
31. Click on Add Measure for the Measures area in the Builder Panel.
32. Select measure Average_Discount.
33. Click on Add Dimension for the Dimensions area and scroll down the list.
34. Select the option Create Dimension Input Control.
35. Select the dimensions: Customer Name and Product Description.
36. Click OK.
37. You will receive a new token as part of your page, and you can use the controls on the box to resize the Dimension Input Control.
38. Now open the chart menu in the top right corner of the chart.
39. Select the menu Sort.

40. Select the option Average_Discount > Highest to Lowest.
41. You now also have a page in your SAP Analytics Cloud Story, consuming the second perspective showing the Average calculation.



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