Extend SAP BW/4HANA with SAP Data Warehouse Cloud

Session ID: ANA262

SAP TechED 2021

Exercises / Solutions

Ingo Hilgefort, SAP

TABLE OF CONTENTS

1 REQUIRED RESOURCES FOR EXERCISES 3
1.1 Download Required Resources....3
2 SAP DATA WAREHOUSE – BUSINESS SCENARIO 4
3 SAP DATA WAREHOUSE CLOUD - EXERCISES....5
3.1 SAP Data Warehouse Cloud – Exercise 01: Release BW Query 5
3.2 SAP Data Warehouse Cloud – Exercise 02: SAP BW4HANA Model Transfer 7
3.3 SAP Data Warehouse Cloud – Exercise 03: Details on Data Warehouse Cloud Assets....10
3.4 SAP Data Warehouse Cloud – Exercise 04: Data Lineage 20
3.5 SAP Data Warehouse Cloud – Exercise 05: Accessing Plan Data in SAP HANA Cloud 23
3.6 SAP Data Warehouse Cloud – Exercise 06: Combining Data Sources 27
3.7 SAP Data Warehouse Cloud – Exercise 07: Adding Dimension Associations 35
3.8 SAP Data Warehouse Cloud – Exercise 08: Replicating Plan Data 45
3.9 SAP Data Warehouse Cloud – Exercise 09: View Persistency 47
3.10 SAP Analytics Cloud – Exercises 10: Actual and Plan Comparison 49

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-ANA262

2 SAP Data Warehouse – Business Scenario

In our scenario we have our current and historic sales revenue information available in SAP BW4/HANA and we have our plan data available in a table in SAP HANA Cloud.

We will first leverage the existing BW4/HANA Query and generate the model in SAP Data Warehouse Cloud and then create a new remote table based on the connection to SAP HANA Cloud.

In the last step we will then combine these two data source in a model in SAP Data Warehouse Cloud and leverage the data visualization options in SAP Analytics Cloud based on the model we created.

3 SAP Data Warehouse Cloud - Exercises

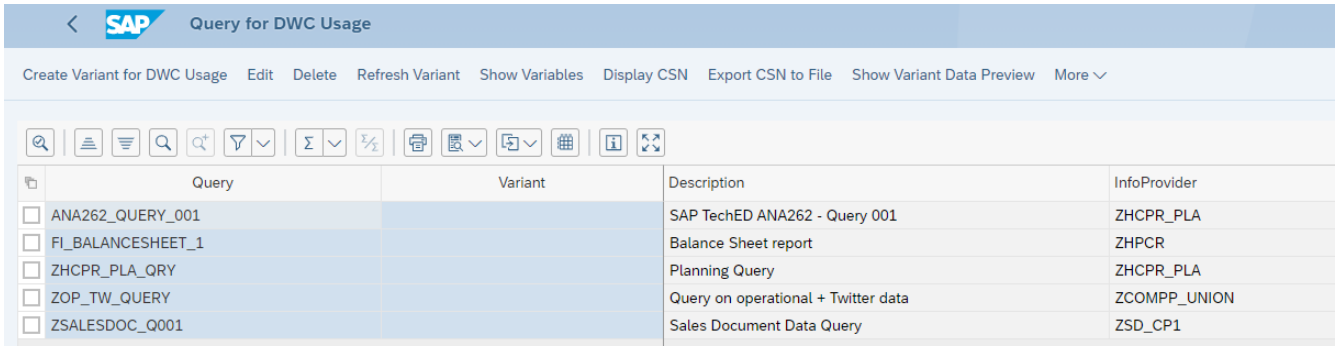
3.1 SAP Data Warehouse Cloud – Exercise 01: Release BW Query

1. Open Google Chrome.
2. Logon to the SAP BW/4HANA System using the following URL:

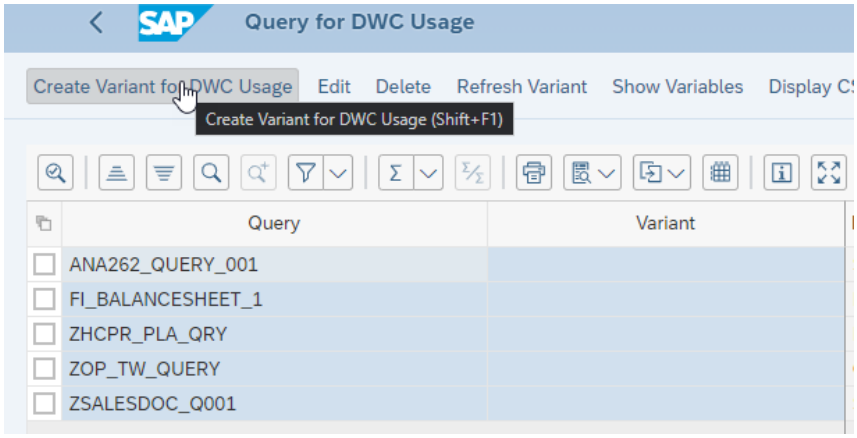
   https://bw4-2021.sapexperienceacademy.com:50043/sap/bc/ui5_ui5/ui2/ushell/shells/abap/FioriLaunchpad.html

3. You will be presented with your BW4/HANA Launchpad

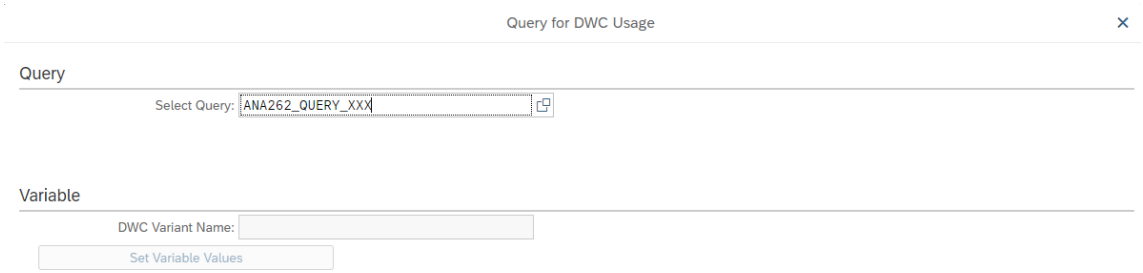
4. Launch Transaction **Query for DWC Usage** (RSDWC_QUERY) by clicking on the tile.



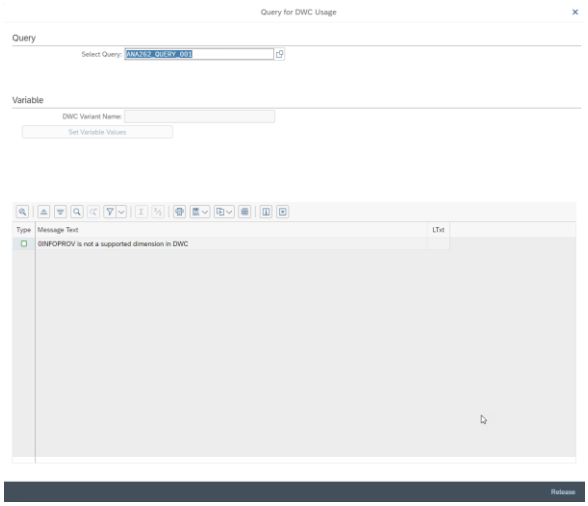
5. Select the option **Create Variant for DWC Usage** in the menu bar.



6. In the upcoming screen enter the BW/4HANA Query name: **ANA262_QUERY_XXX** and replace the XXX with your assigned number (3 digit number).



7. Press **ENTER** on the keyboard.
8. Click **Release** (bottom right).

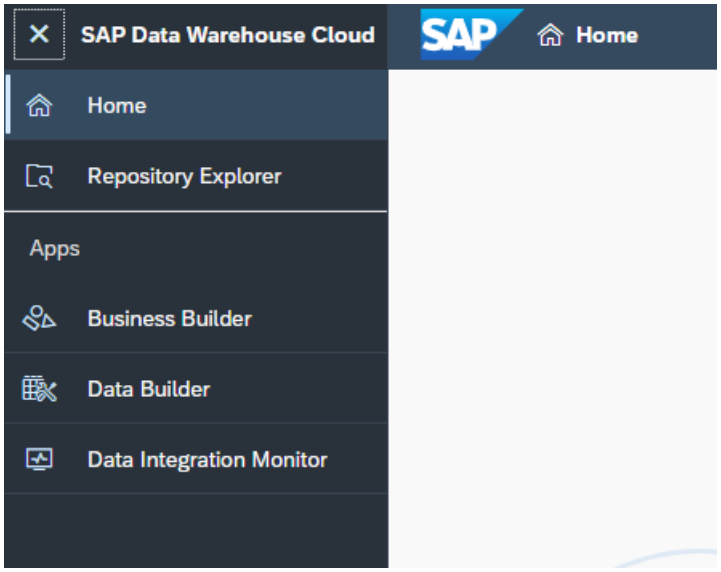


9. The BW4/HANA Query will then be listed in the list of released BW/4HANA Queries.
10. Close the transaction screen in the browser.

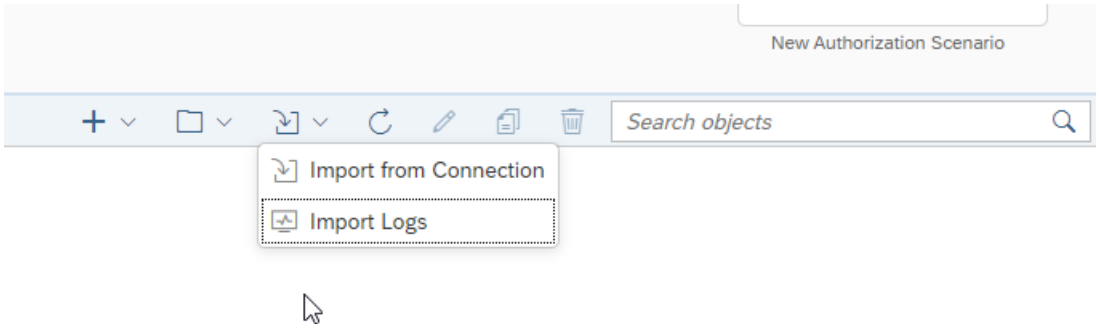
The BW/4HANA Query has been released and can now be used as part of the SAP BW/4HANA Model transfer in SAP Data Warehouse Cloud.

3.2 SAP Data Warehouse Cloud – Exercise 02: SAP BW4HANA Model Transfer

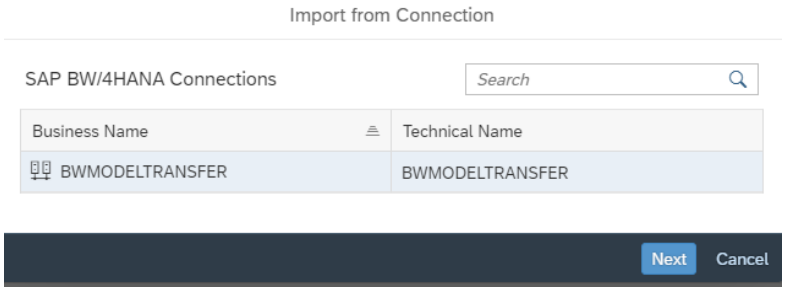
1. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
2. In the top left of the start screen you will find the menu options.



3. Select the menu **Business Builder**.
4. In case you are being asked to select a SPACE, please select the Space that matches your User Name and Number - **AC3864U<XX>. Replace <XX> with your assigned number.**
5. In the start screen of the Business Builder, open the **Import menu**.

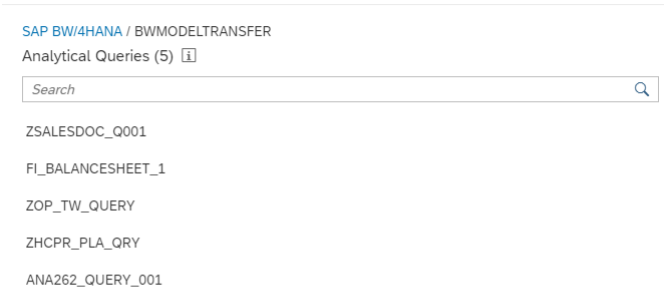


6. Select the option **Import from Connection**.

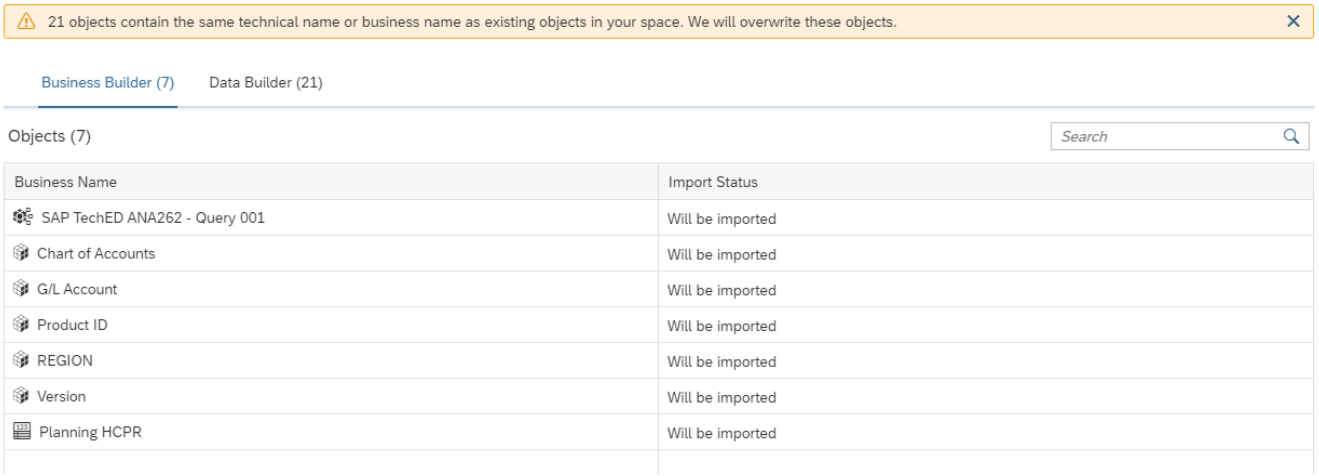


7. Select the entry for the **BWMODELTRANSFER** connection.

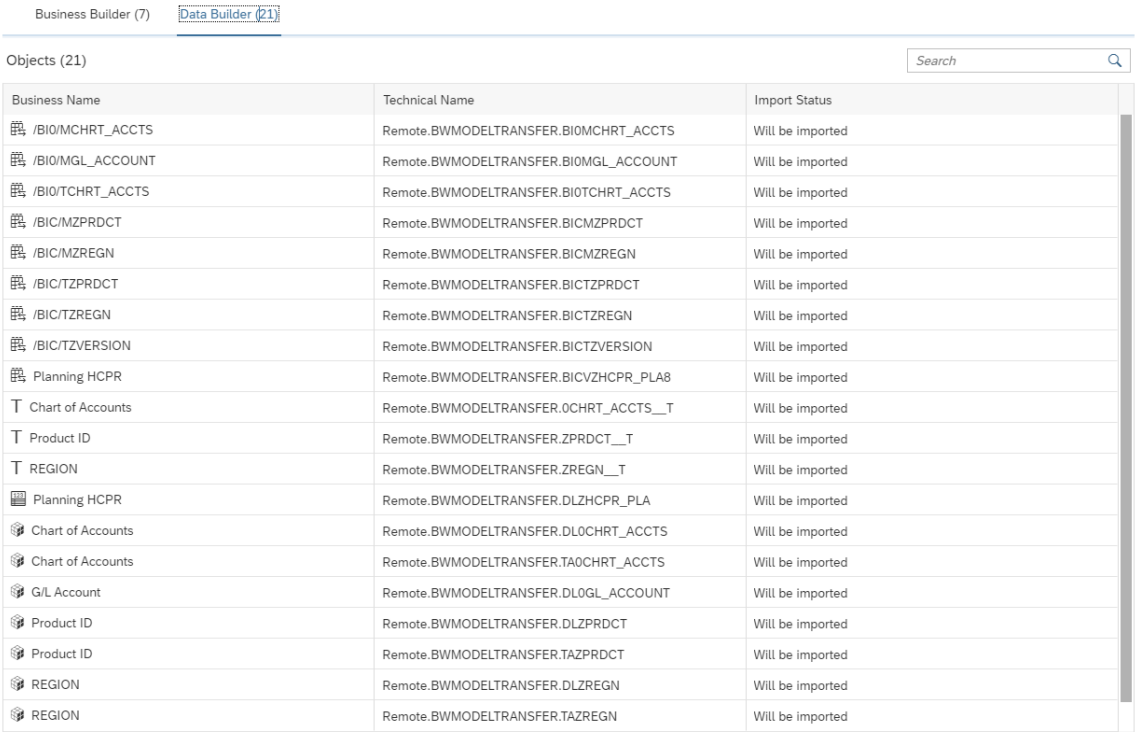
8. Click **Next**.



9. Select the BW/4HANA Query – **ANA262_QUERY_XXX** (XXX being replaced with your user number) from the list.

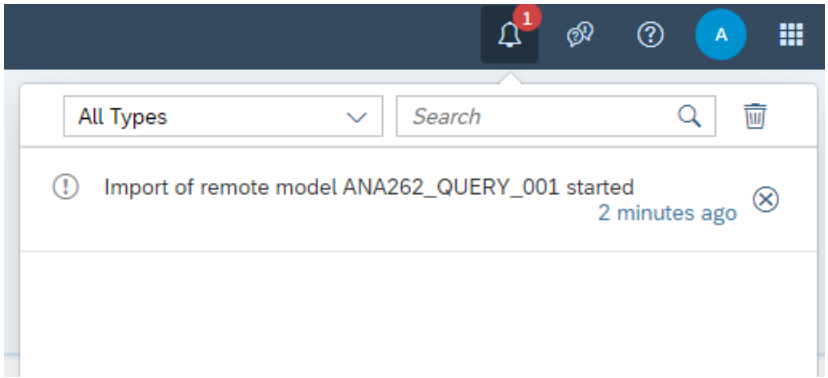


10. You are presented with the list of assets that will be generated as part of the Business Builder as well as part of the Data Builder.

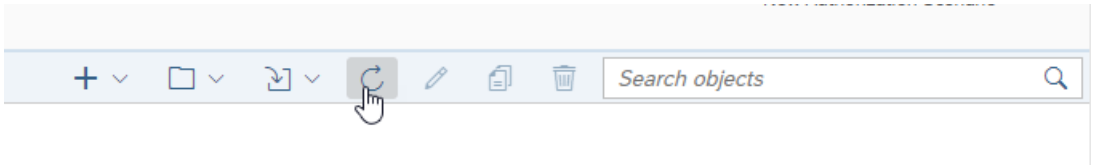


Business Name	Technical Name	Import Status
/BI0/MCHRT_ACCTS	Remote.BWMODELTRANSFER.BI0MCHRT_ACCTS	Will be imported
/BI0/MGL_ACCOUNT	Remote.BWMODELTRANSFER.BI0MGL_ACCOUNT	Will be imported
/BI0/TCHRT_ACCTS	Remote.BWMODELTRANSFER.BI0TCHRT_ACCTS	Will be imported
/BIC/MZPRDCT	Remote.BWMODELTRANSFER.BICMZPRDCT	Will be imported
/BIC/MZREGN	Remote.BWMODELTRANSFER.BICMZREGN	Will be imported
/BIC/TZPRDCT	Remote.BWMODELTRANSFER.BICTZPRDCT	Will be imported
/BIC/TZREGN	Remote.BWMODELTRANSFER.BICTZREGN	Will be imported
/BIC/TZVERSION	Remote.BWMODELTRANSFER.BICTZVERSION	Will be imported
Planning HCPR	Remote.BWMODELTRANSFER.BICVZHCPR_PLA8	Will be imported
Chart of Accounts	Remote.BWMODELTRANSFER.0CHRT_ACCTS__T	Will be imported
Product ID	Remote.BWMODELTRANSFER.ZPRDCT__T	Will be imported
REGION	Remote.BWMODELTRANSFER.ZREGN__T	Will be imported
Planning HCPR	Remote.BWMODELTRANSFER.DLZHCPR_PLA	Will be imported
Chart of Accounts	Remote.BWMODELTRANSFER.DL0CHRT_ACCTS	Will be imported
Chart of Accounts	Remote.BWMODELTRANSFER.TA0CHRT_ACCTS	Will be imported
G/L Account	Remote.BWMODELTRANSFER.DL0GL_ACCOUNT	Will be imported
Product ID	Remote.BWMODELTRANSFER.DLZPRDCT	Will be imported
Product ID	Remote.BWMODELTRANSFER.TAZPRDCT	Will be imported
REGION	Remote.BWMODELTRANSFER.DLZREGN	Will be imported
REGION	Remote.BWMODELTRANSFER.TAZREGN	Will be imported

11. Click **Import**.
12. The import of the required elements for the Data Layer as well as the Business Layer will start and you will receive a notification when the import has finished. Notifications are listed in the top right corner (Alarm bell icon).



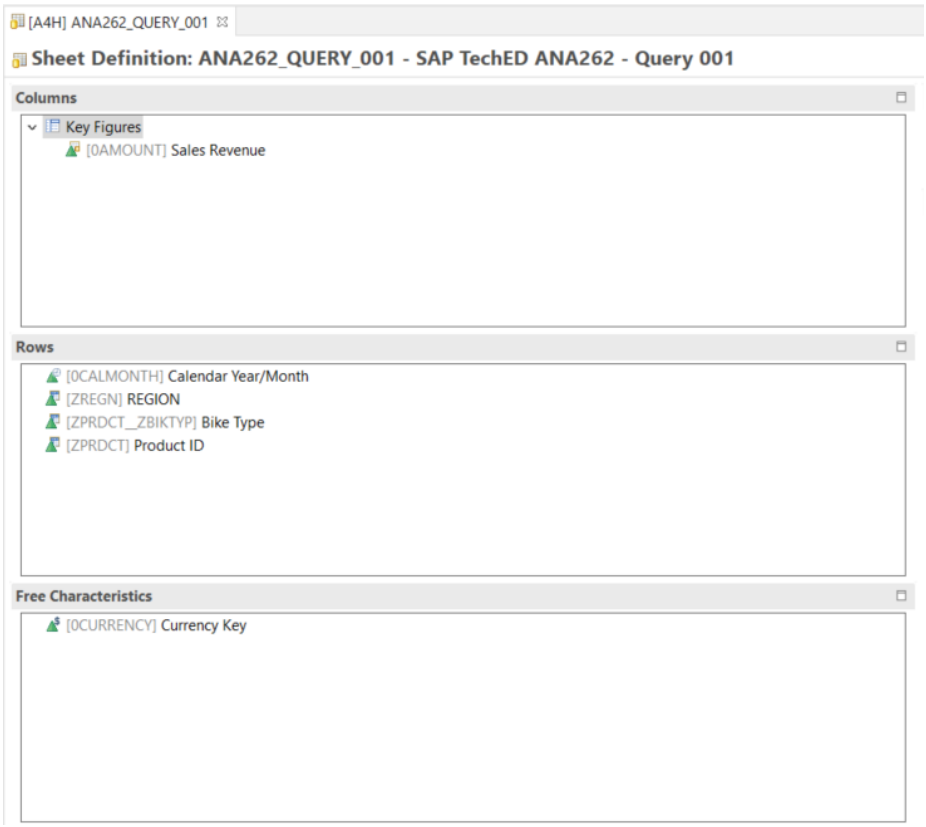
After you received the succesful deployment message, please click the Refresh icon to refresh the list of assets.



3.3 SAP Data Warehouse Cloud – Exercise 03: Details on Data Warehouse Cloud Assets

In the following steps we will review the generated assets in the Data Layer and Business Layer and how they related back to our source BW Query.

The BW Query we used has the following elements:



Key Figures

- Sales Revenue (0AMOUNT)

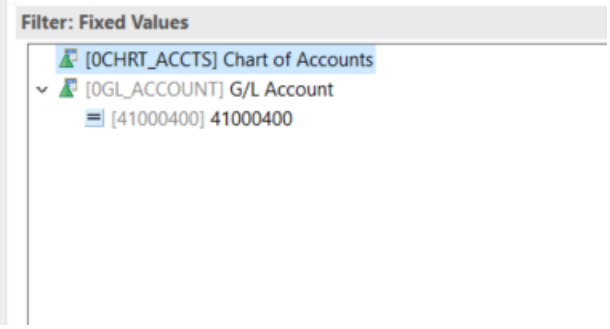
Characteristics in the Rows

- Calendar Year / Month (0CALMONTH)
- Region (ZREGION)
- Bike Type (ZPRDCT_ZBIKTYP)
- Product ID (ZPRDCT)

Free Characteristics

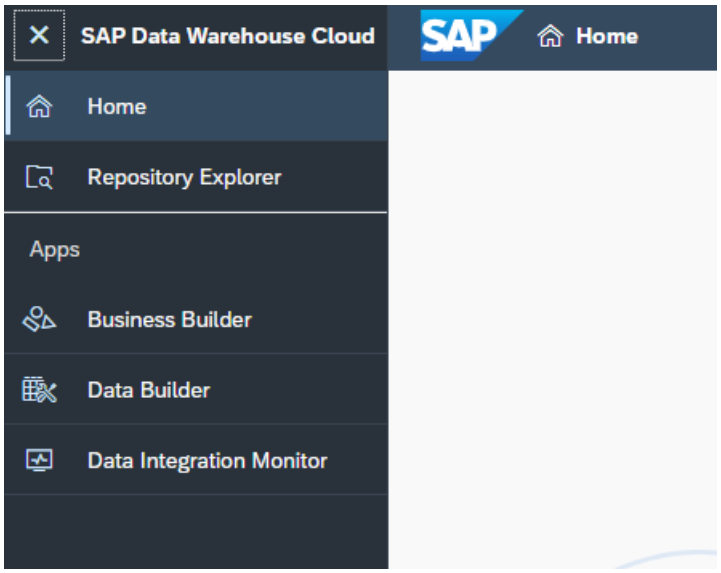
- Currency Key (0CURRENCY)

As part of the Filter Area we have the following definitions

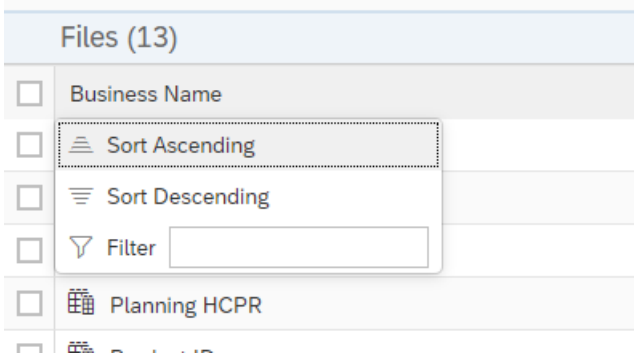


Filter Area
- Chart of Accounts (0CHRT_ACCTS)
- G/L Account (0GL_ACCOUNT)

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



3. Select the menu **Data Builder**.
4. Select the option **Views**.
5. On the Start screen of the Data Builder click on the column header for the **Business Name**.



6. Select the option **Sort Ascending**.

Files (13)

Business Name	Technical Name	Type
Chart of Accounts	Remote.BWMODELTRANSFER.0CHRT_ACCTS__T	View (Relational Dataset)
Chart of Accounts	Remote.BWMODELTRANSFER.DL0CHRT_ACCTS	View (Dimension)
G/L Account	Remote.BWMODELTRANSFER.DL0GL_ACCOUNT	View (Dimension)
Planning HCPR	Remote.BWMODELTRANSFER.DLZHCPR_PLA	View (Analytical Dataset)
Product ID	Remote.BWMODELTRANSFER.ZPRDCT__T	View (Relational Dataset)
Product ID	Remote.BWMODELTRANSFER.DLZPRDCT	View (Dimension)
REGION	Remote.BWMODELTRANSFER.DLZREGN	View (Dimension)
REGION	Remote.BWMODELTRANSFER.ZREGN__T	View (Relational Dataset)
Time Dimension - Day	SAP.TIME.VIEW_DIMENSION_DAY	View (Dimension)
Time Dimension - Month	SAP.TIME.VIEW_DIMENSION_MONTH	View (Dimension)
Time Dimension - Quarter	SAP.TIME.VIEW_DIMENSION_QUARTER	View (Dimension)
Time Dimension - Year	SAP.TIME.VIEW_DIMENSION_YEAR	View (Dimension)
Version	Remote.BWMODELTRANSFER.DLZVERSION	View (Dimension)

You can see now, that for each characteristic that is part of the BW Query, we did receive a View (Dimension) and a View (Relational Dataset).
Here the two views for the characteristic Product ID:

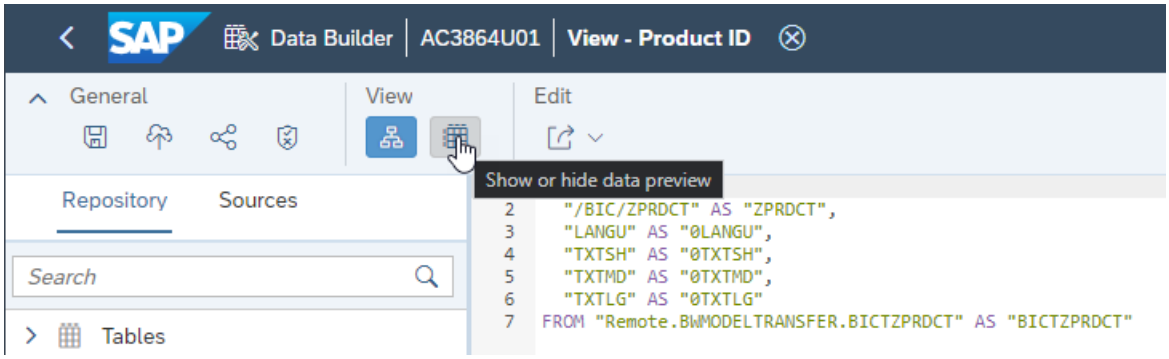
Product ID	Remote.BWMODELTRANSFER.ZPRDCT__T	View (Relational Dataset)
Product ID	Remote.BWMODELTRANSFER.DLZPRDCT	View (Dimension)

7. Click on the entry **View (Relational Dataset) for Product ID**. The Technical Name ends with "__T".

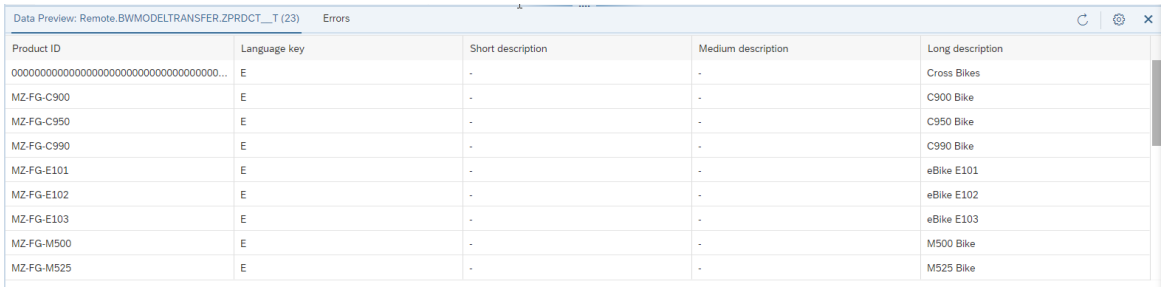
```
1  SELECT
2    "/BIC/ZPRDCT" AS "ZPRDCT",
3    "LANGU" AS "0LANGU",
4    "TXTSH" AS "0TXTSH",
5    "TXTMD" AS "0TXTMD",
6    "TXTLG" AS "0TXTLG"
7  FROM "Remote.BWMODELTRANSFER.BICTZPRDCT" AS "BICTZPRDCT"
```

8. You can see based on the SQL that this is the View which brings in the short, medium, and long description values for the characteristic.

9. In the Toolbar click on the **Preview** option.

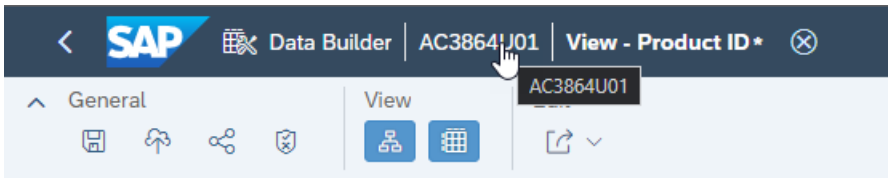


10. You are presented with the **Data Preview** for the descriptions.

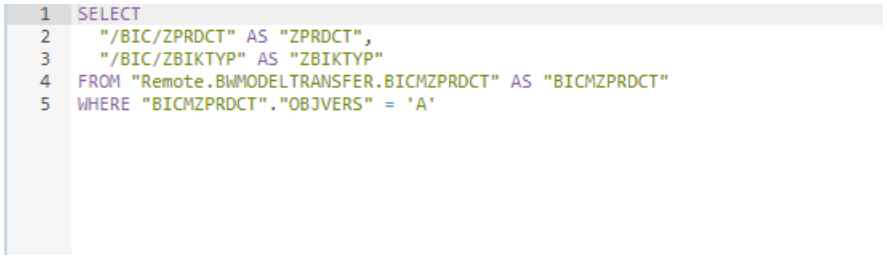


Product ID	Language key	Short description	Medium description	Long description
00000000000000000000000000000000000...	E	-	-	Cross Bikes
MZ-FG-C900	E	-	-	C900 Bike
MZ-FG-C950	E	-	-	C950 Bike
MZ-FG-C990	E	-	-	C990 Bike
MZ-FG-E101	E	-	-	eBike E101
MZ-FG-E102	E	-	-	eBike E102
MZ-FG-E103	E	-	-	eBike E103
MZ-FG-M500	E	-	-	M500 Bike
MZ-FG-M525	E	-	-	M525 Bike

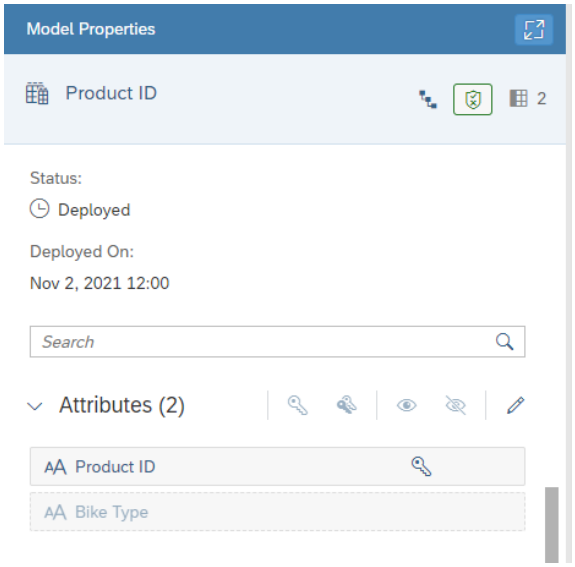
11. Now click on your SPACE Name in the top navigation bar.



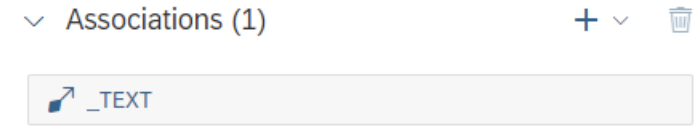
12. In case you are being asked, Discard any changes.
13. Now click on the **View (Dimension)** entry for characteristic **Product ID**.



14. As you can see in the SQL …. As well as in the Properties on the right hand side…

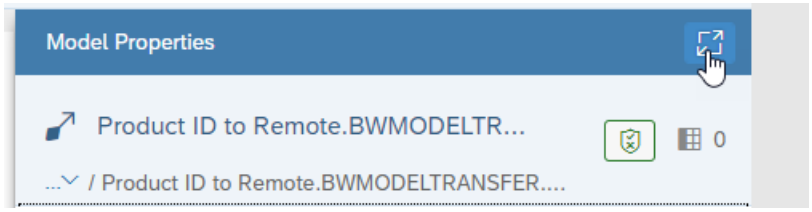


15. … we have Product ID as well as Bike Type. Bike Type is an Attribute for characteristic Product ID.
16. In the **Properties panel** on the right hand side, scroll down to the area **Associations**.



17. Navigate to the far right and select the option to **Edit the Association**.

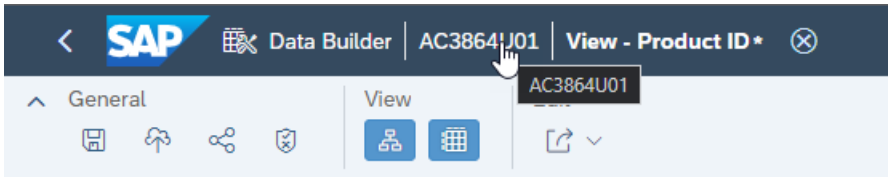
18. In the top right of the **Properties** panel, select the option to enter full screen.



19. Now you can see the Details of the Association.

20. You can see that the View (Dimension) for Product ID is joined with the View (Relational Dataset) in form of an Association, so that you have access to the different description values.
21. Click on the icon for the Full Screen option in the top right to minimize the Properties panel.

22. Now click on your SPACE Name in the top navigation bar.



23. In case you are being asked, **Discard** any changes.
24. In the list of Data Builder Assets – in addition to the views for the characteristics, we also see the **Analytical Dataset – Planning HCPR**.

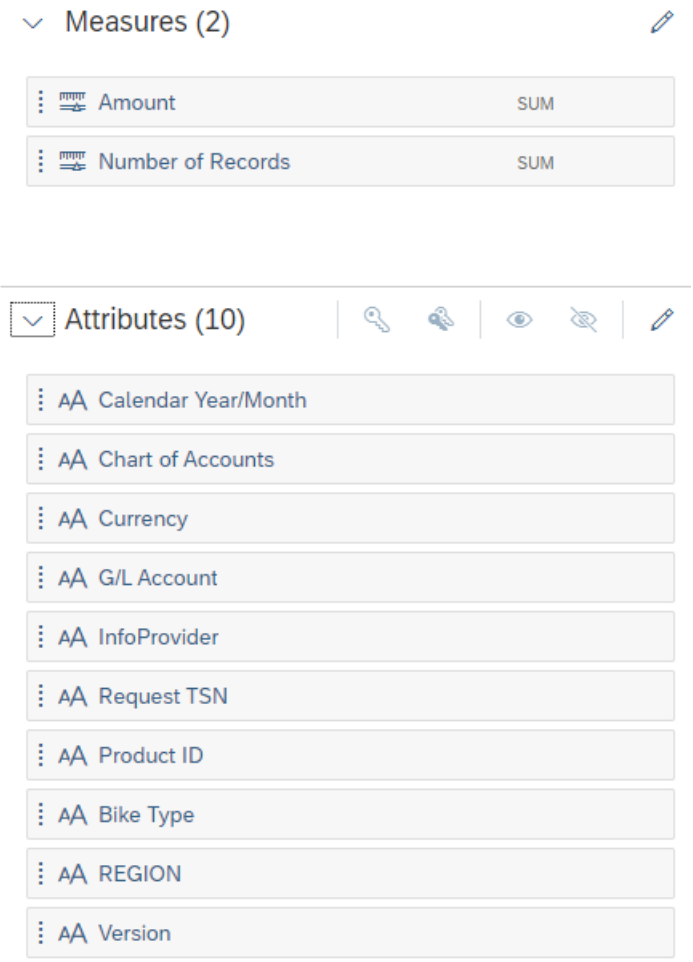
Business Name	Technical Name	Type
Chart of Accounts	Remote.BWMODELTRANSFER.0CHRT_ACCTS__T	View (Relational Dataset)
Chart of Accounts	Remote.BWMODELTRANSFER.DL0CHRT_ACCTS	View (Dimension)
G/L Account	Remote.BWMODELTRANSFER.DL0GL_ACCOUNT	View (Dimension)
Planning HCPR	Remote.BWMODELTRANSFER.DLZHCPR_PLA	View (Analytical Dataset)

25. Click on the entry.

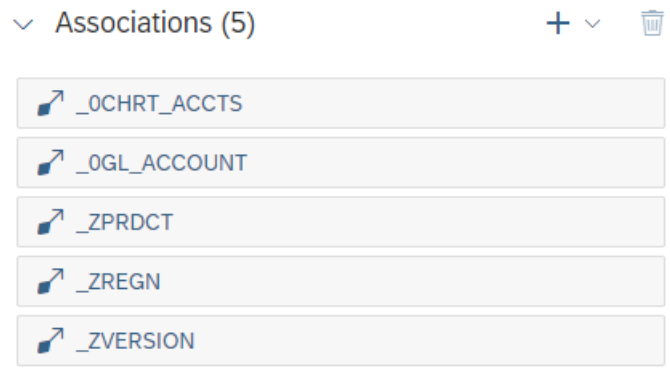
```
SELECT
  "BICVZHCPR_PLA8_0"."0AMOUNT" AS "0AMOUNT",
  "BICVZHCPR_PLA8_0"."0CALMONTH" AS "0CALMONTH",
  "BICVZHCPR_PLA8_0"."0CHRT_ACCTS" AS "0CHRT_ACCTS",
  "BICVZHCPR_PLA8_0"."0CURRENCY" AS "0CURRENCY",
  "BICVZHCPR_PLA8_0"."0GL_ACCOUNT" AS "0GL_ACCOUNT",
  "BICVZHCPR_PLA8_0"."0INFOPROV" AS "0INFOPROV",
  "BICVZHCPR_PLA8_0"."0REQTSN" AS "0REQTSN",
  "BICVZHCPR_PLA8_0"."1ROWCOUNT" AS "1ROWCOUNT",
  "BICVZHCPR_PLA8_0"."ZPRDCT" AS "ZPRDCT",
  "_ZPRDCT_1"."ZBIKTYP" AS "ZPRDCT__ZBIKTYP",
  "BICVZHCPR_PLA8_0"."ZREGN" AS "ZREGN",
  "BICVZHCPR_PLA8_0"."ZVERSION" AS "ZVERSION"
FROM ("Remote.BWMODELTRANSFER.BICVZHCPR_PLA8" AS "BICVZHCPR_PLA8_0" LEFT JOIN "Remote.BWMODELTRANSFER.DLZPRDCT" AS "_ZPRDCT_1" ON "BICVZHCPR_PLA8_0"."ZPRDCT" = "_ZPRDCT_1"."ZPRDCT")
```

This Analytical Dataset basically represents the Resultset from your BW/4HANA Query.

26. In the Properties panel, navigate to the **Measures** and **Attributes** area.

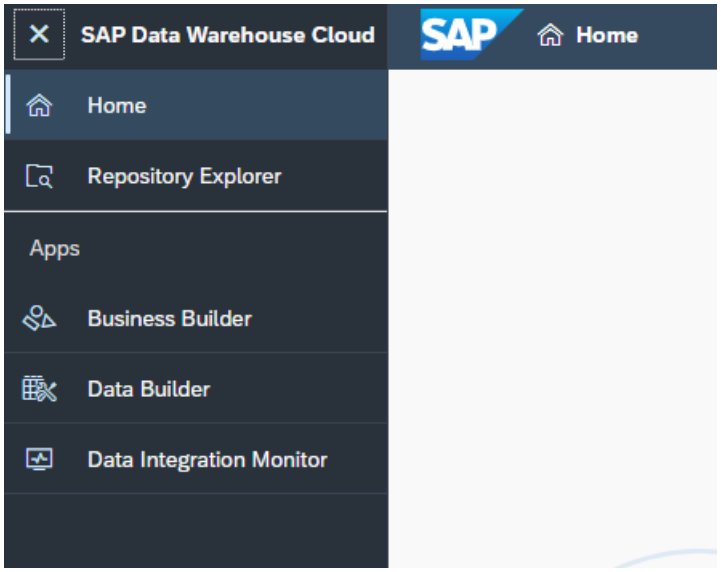


27. Here you can see all the elements from the BW Query in combination with a few mandatory elemens, such as the characteristic for InfoProvider.
28. Scroll down to the area **Associations**



29. You can see that all the charactistics are being joined to the resultset in form of **Associations**.

30. In the top left of the start screen you will find the menu options.



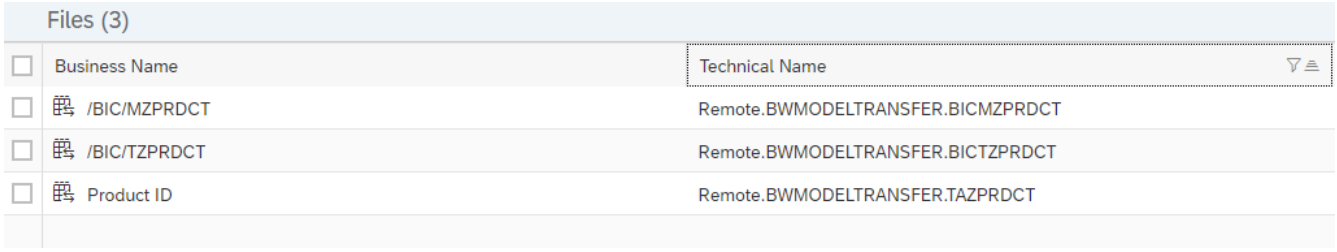
31. Select the menu Data Builder.
32. Select the option Tables.

Files (19)

Business Name	Technical Name	Type
DataSetBikesCSV	DataSetBikesCSV	Local Table (Relational Dataset)
DataSetBikes_Predictions	DataSetBikes_Predictions	Local Table (Relational Dataset)
ProductTexts	ProductTexts	Local Table (Relational Dataset)
/BI0/MCHRT_ACCTS	Remote.BWMODELTRANSFER.BI0MCHRT_ACCTS	Remote Table (Relational Dataset)
/BI0/MGL_ACCOUNT	Remote.BWMODELTRANSFER.BI0MGL_ACCOUNT	Remote Table (Relational Dataset)
/BI0/TCHRT_ACCTS	Remote.BWMODELTRANSFER.BI0TCHRT_ACCTS	Remote Table (Relational Dataset)
/BIC/MZPRDCT	Remote.BWMODELTRANSFER.BICMZPRDCT	Remote Table (Relational Dataset)
/BIC/MZREGN	Remote.BWMODELTRANSFER.BICMZREGN	Remote Table (Relational Dataset)
/BIC/TZPRDCT	Remote.BWMODELTRANSFER.BICTZPRDCT	Remote Table (Relational Dataset)
/BIC/TZREGN	Remote.BWMODELTRANSFER.BICTZREGN	Remote Table (Relational Dataset)
/BIC/TZVERSION	Remote.BWMODELTRANSFER.BICTZVERSION	Remote Table (Relational Dataset)
Planning HCPR	Remote.BWMODELTRANSFER.BICVZHCPR_PLA8	Remote Table (Relational Dataset)
Chart of Accounts	Remote.BWMODELTRANSFER.TA0CHRT_ACCTS	Remote Table (Dimension)
Product ID	Remote.BWMODELTRANSFER.TAZPRDCT	Remote Table (Dimension)
REGION	Remote.BWMODELTRANSFER.TAZREGN	Remote Table (Dimension)
Time Table	SAP.TIME.M_TIME_DIMENSION	Local Table (Relational Dataset)
Translation Table - Day	SAP.TIME.M_TIME_DIMENSION_TDAY	Local Table (Text)
Translation Table - Month	SAP.TIME.M_TIME_DIMENSION_TMONTH	Local Table (Text)
Translation Table - Quarter	SAP.TIME.M_TIME_DIMENSION_TQUARTER	Local Table (Text)

33. Here you get to see the underlying tables that were generated based on our BW/4HANA Query.
34. We will take the Product ID characteristic as an example to outline the tables.
35. Click on the header **Technical Name**.
36. Enter **PRDCT** as Filter.

37. You should now see three entries.



You have the following tables:

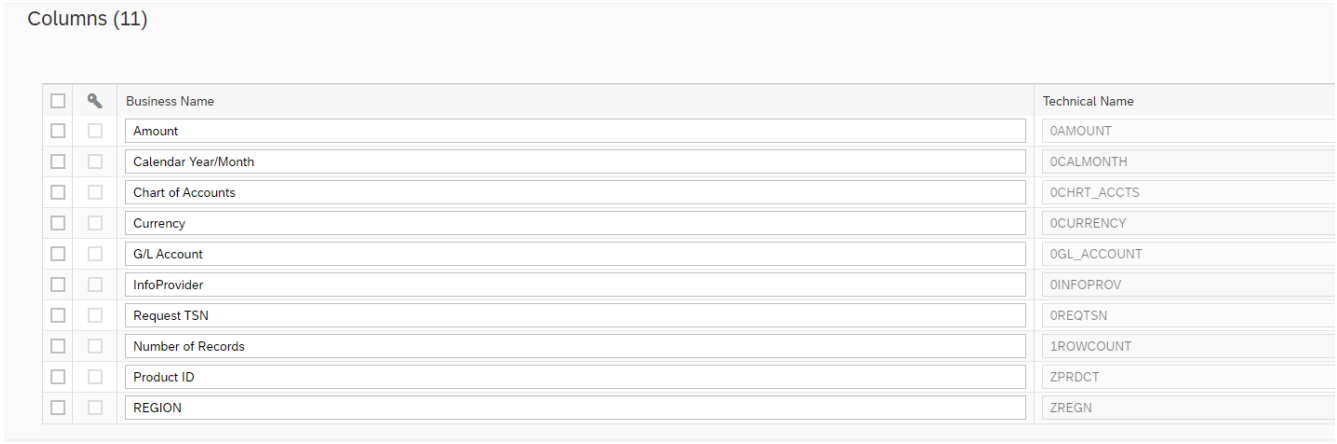
BIC**M**ZPRDCT The table represents the Master Data for the characteristic Product ID

BIC**T**ZPRDCT The table represents the Text / Descriptions for the characteristic Product ID

TAZPRDCT The table represents the Text / Descriptions for the Attributes from the characteristic.

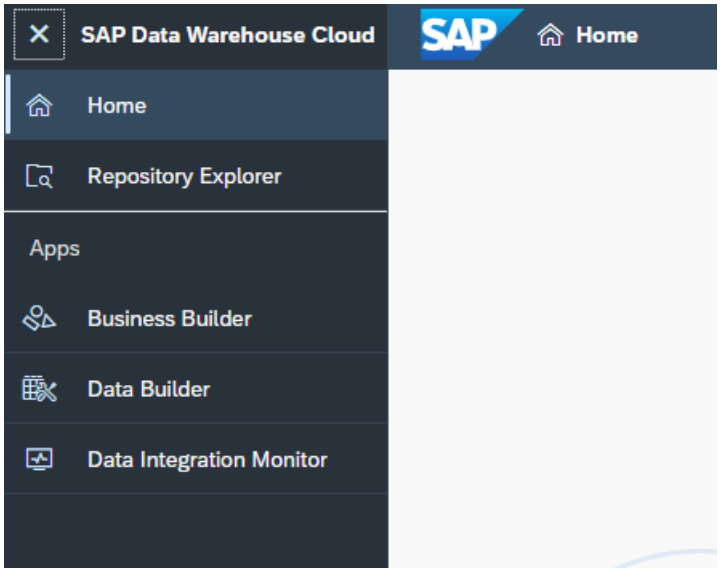
38. Click on the header **Technical Name** again.
39. Remove the value for the Filter.
40. Press **ENTER** on the keyboard.
41. In the list of Tables you will also see the table **Planning HCPR**, which is the representation of your BW Query (The technical name of the table contains the name of the InfoProvider)

42. Click on the entry for the Table **Planning HCPR**.

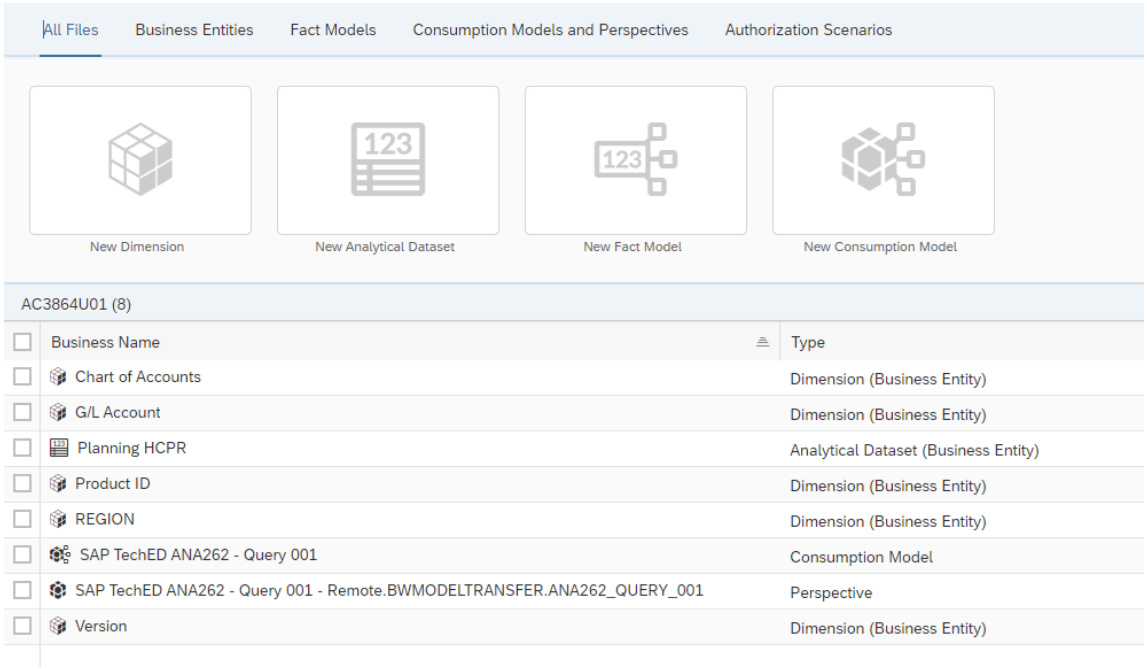


43. In the Columns section you can see all the elements generated based on the details from the BW Query.

44. In the top left of the start screen you will find the menu options.



45. Select the menu Business Builder.
46. Ensure you select the option All Files.

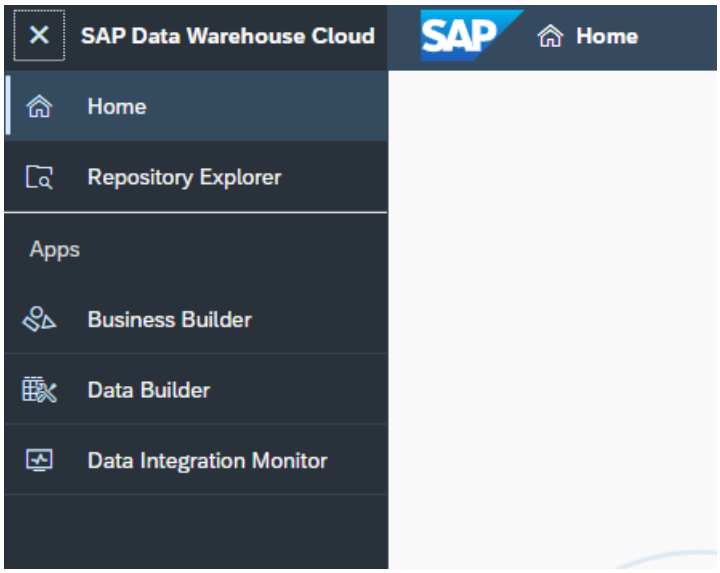


47. You can see now, that the following elements have been generated:
    - For each characteristic from the BW Query we received a Dimension
    - For the overall resultset we received the Analytical Dataset
    - We also have the Consumption Model and the Perspective based on the BW Query

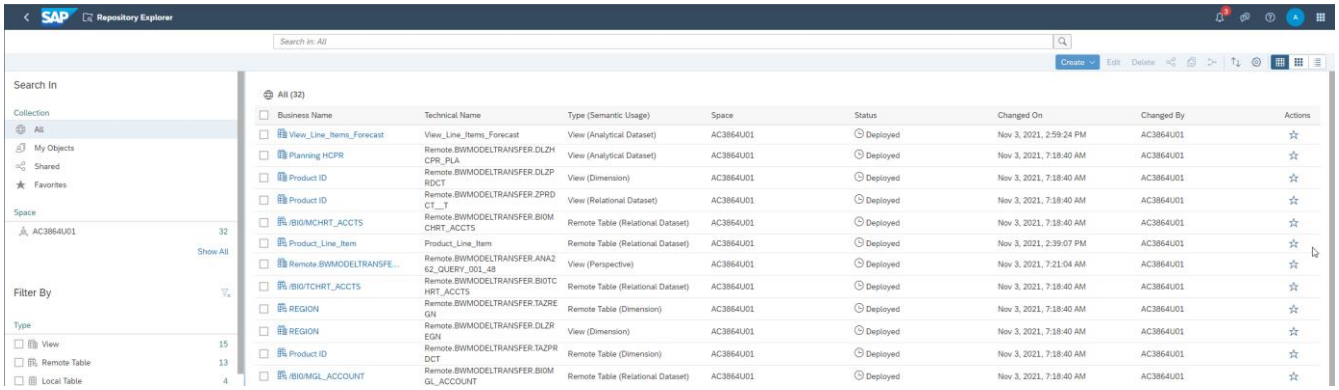
3.4 SAP Data Warehouse Cloud – Exercise 04: Data Lineage

We can also use the Data Lineage option in SAP Data Warehouse Cloud to see how certain elements are being defined and where certain elements are being used.

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

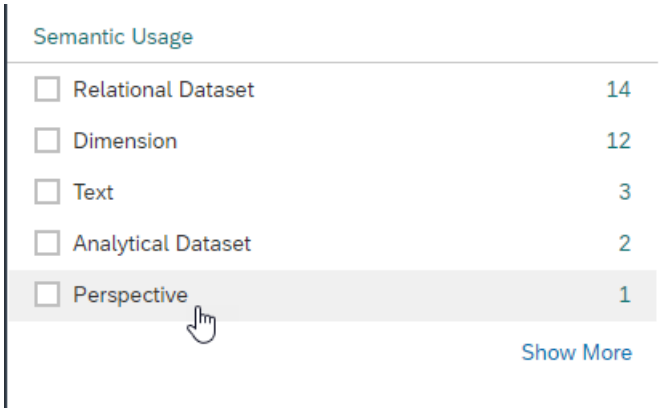


3. Select the menu **Repository Explorer**.

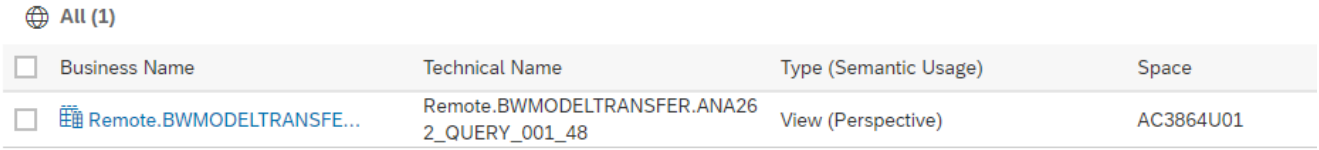


4. You are shown the complete list of assets in SAP Data Warehouse Cloud for your SPACE and you can search and filter based on a variety of criteria.
5. We are interested in the Lineage option, so lets filter the list down to the Perspective from the Business Layer – our top entry.

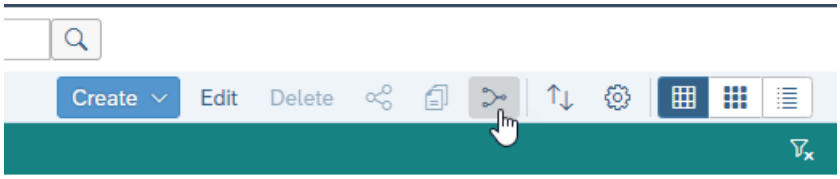
6. In the panel on the left hand side, select the entry Perspective from the Semantic Usage category.



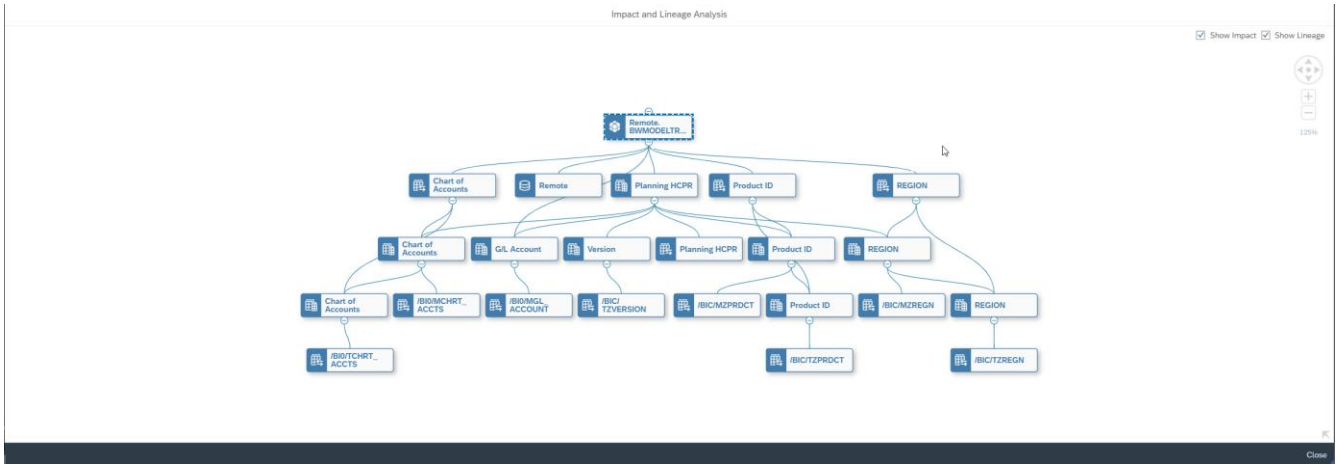
7. This filters the list down to 1 element.



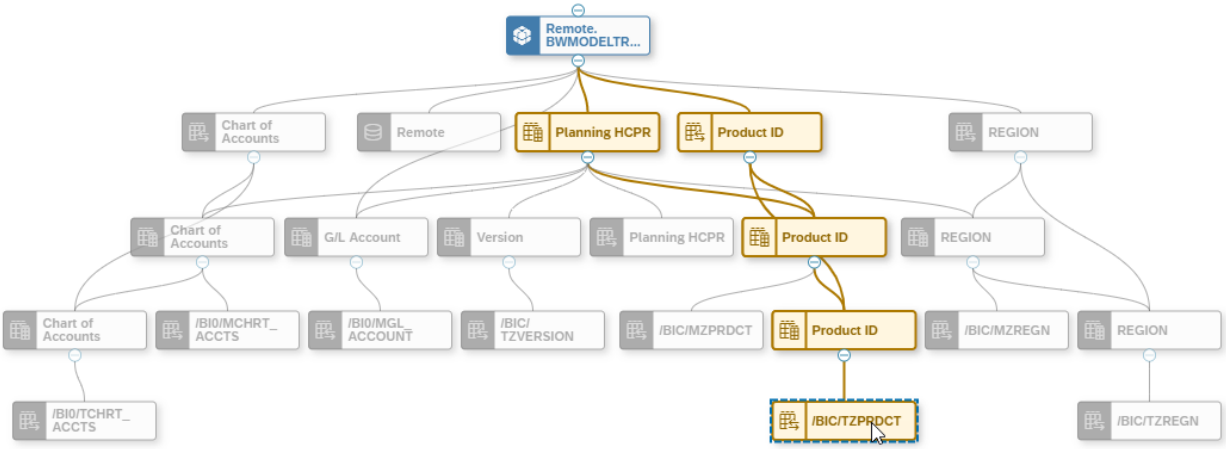
8. Enable the checkbox for the one element.
9. In the top-right click on the Lineage and Impact Analysis option.



10. You are now presented with the impact and lineage for the Business Layer perspective and you can see all elements down to the Remote Table being brought in from SAP BW/4HANA.



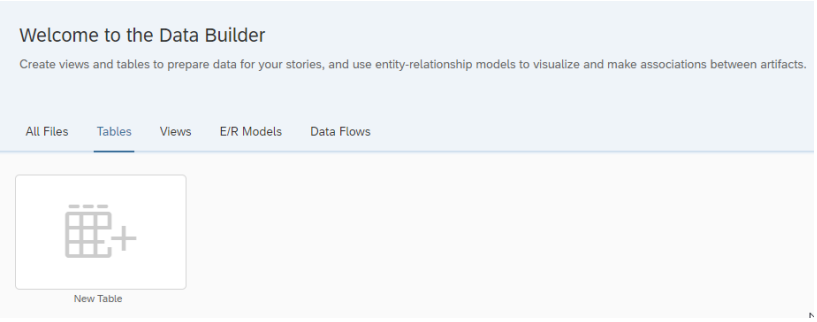
11. Select the lowest level for the Product text - /BIC/TZPRDCT.



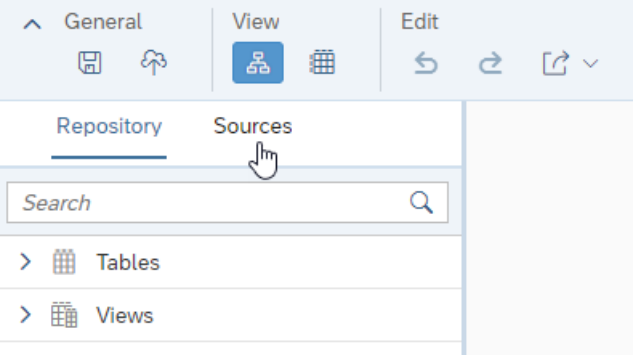
12. After you selected the table, the Impact / Lineage upwards is shown.
13. Close the screen.

3.5 SAP Data Warehouse Cloud – Exercise 05: Accessing Plan Data in SAP HANA Cloud

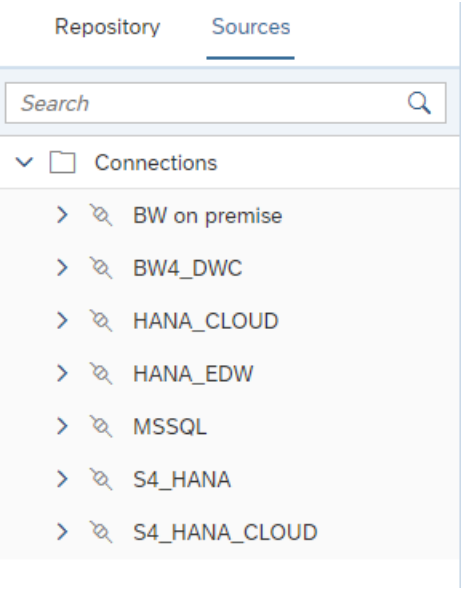
1. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
2. In the top left of the start screen you will find the menu options.
3. By clicking on the menu in the top left (the icon with the three stripes), you can expand the menu to also show the menu text.
4. Select the menu entry Data Builder.



5. Click on the tab Views.
6. Select the option New Graphical View.

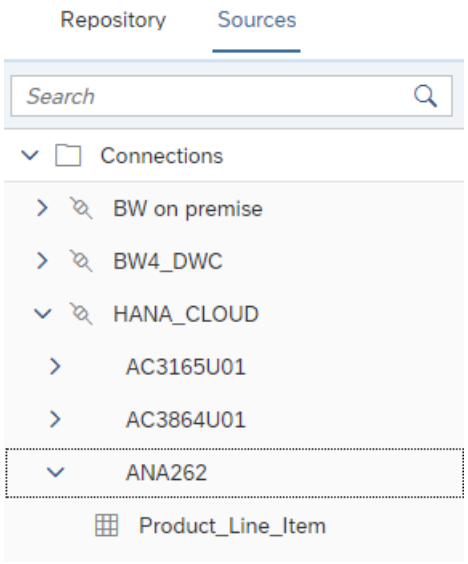


7. On the top left, select the option Sources to receive the list of Connections.
8. Open the list of Connections.

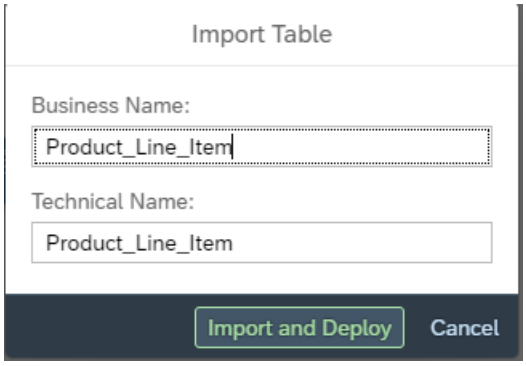


9. Expand the connection HANA_CLOUD.

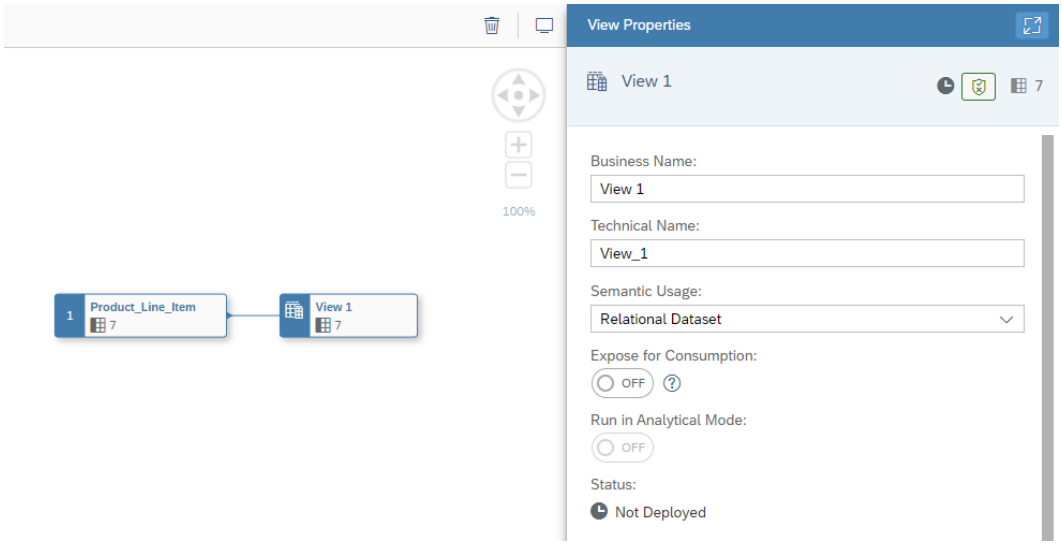
10. Expand the schema ANA262.



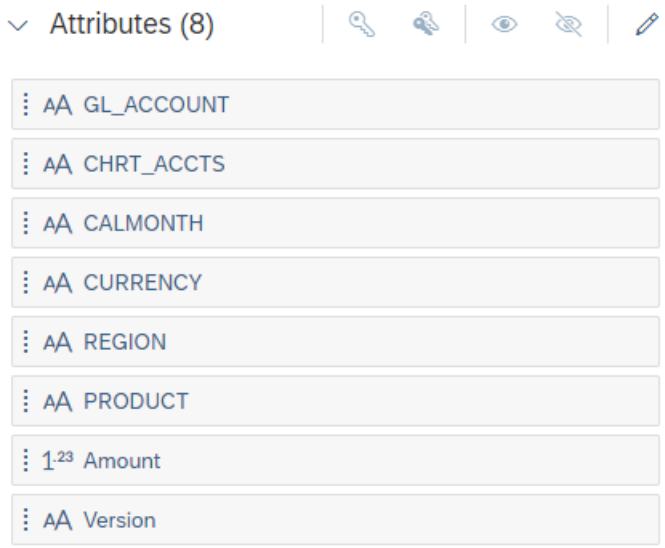
11. Drag and Drop the table Product_Line_Item to your canvas.



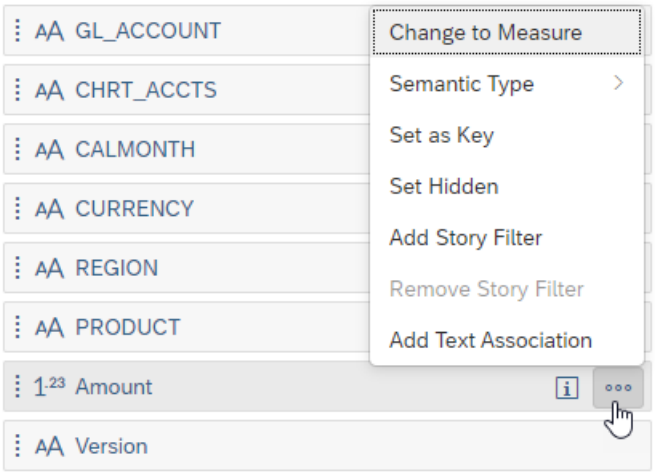
12. You are being asked for the Business Name and the Technical Name.
13. Ensure both names are configured as Product_Line_Item.
14. Click Import and Deploy.



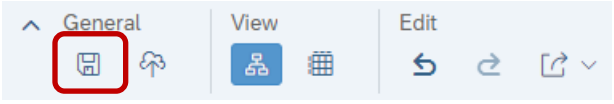
15. Select the node View 1 on the canvas.
16. Enter the following details:
    - Business Name View_Line_Items_Forecast
    - Technical Name View_Line_Items_Forecast
    - Semantic Usage Analytical Dataset
17. Enable the option Expose for Consumption.
18. In the Properties panel, scroll down to the Attributes section.



19. Select the entry for Amount.
20. Open the More menu for Amount.

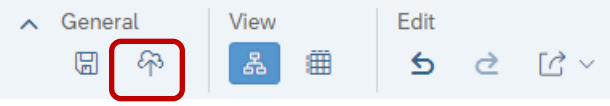


21. Select the menu Change to Measure.
22. In the menu bar now select the option to save your changes.



23. You will be asked to confirm the configured Business Name and Technical Name.

24. Click Save.
25. After you saved the changes use the Deploy option.

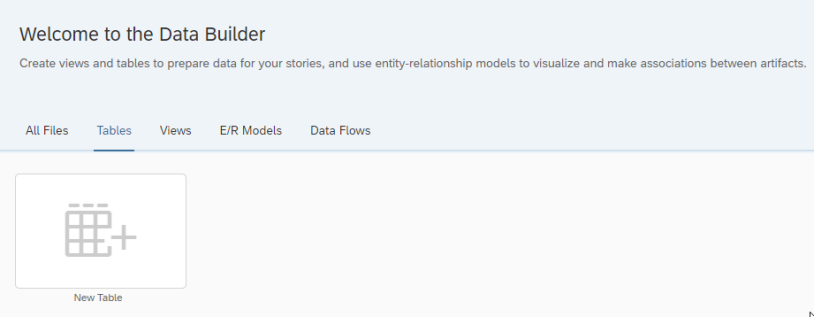


We brought in the table from the HANA Cloud System and created a Data Builder View. In the next step we can now combine this View with the View from our BW4/HANA System and in the way combine the Actual data with our plan data.

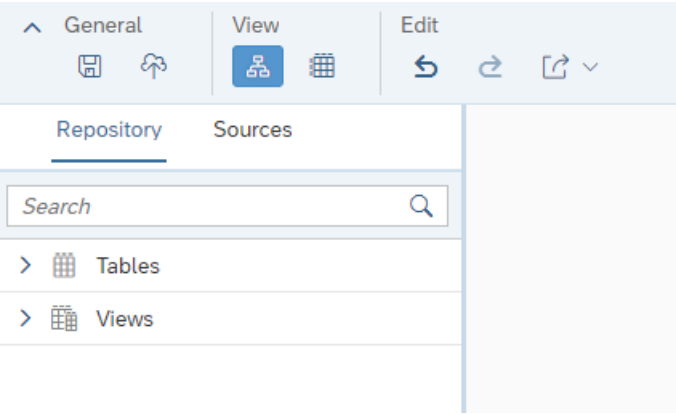
3.6 SAP Data Warehouse Cloud – Exercise 06: Combining Data Sources

In our scenario we have the actual data coming from SAP BW/4HANA and the Plan data is coming from the HANA Cloud system. The data structure is nearly identical, with some additional default columns as part of the BW/4HANA Data source. In the next steps we will first create a Projection for the BW/4HANA Data source and remove those additional columns, and then we will create a UNION as part of the data model to combine the Actual and Plan Data into a single view.

1. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
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. Select the menu entry Data Builder.

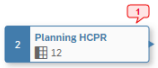


5. Click on the tab Views.
6. Select the option New Graphical View.
7. On the panel on the left hand side, ensure the option Repository is selected.

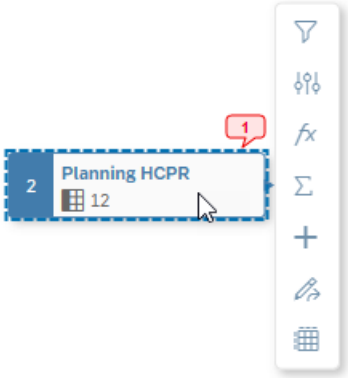


8. Expand the option Views.
9. Now drag and drop the View View_Line_Items_Forecast to the canvas.

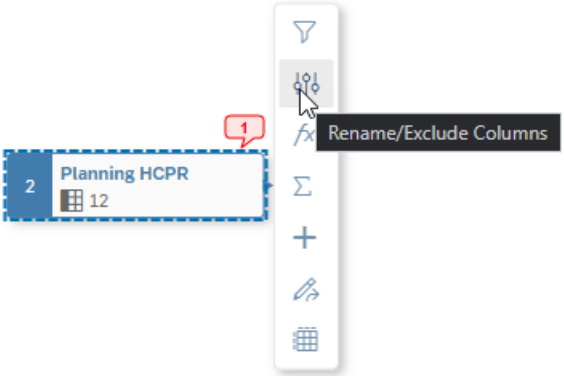
10. You will automatically receive the final output node View 1 as well.
11. Now select the entry Planning HCPR – which is the View for our BW/4HANA Query – in the panel on the left hand side.
12. Drag and Drop the Planning HCPR View also to the canvas – but away from the existing Views, so that it doesn't connect automatically.



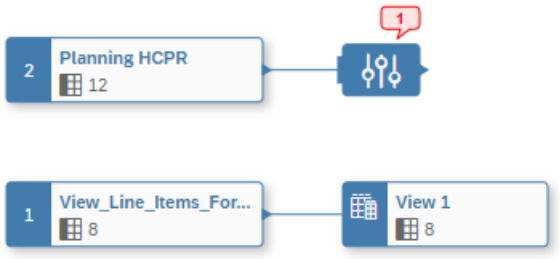
13. We don't want the View to connect automatically as we first want to setup a Projection and remove the additional columns from the list.
14. Now select the View Planning HCPR on the canvas.



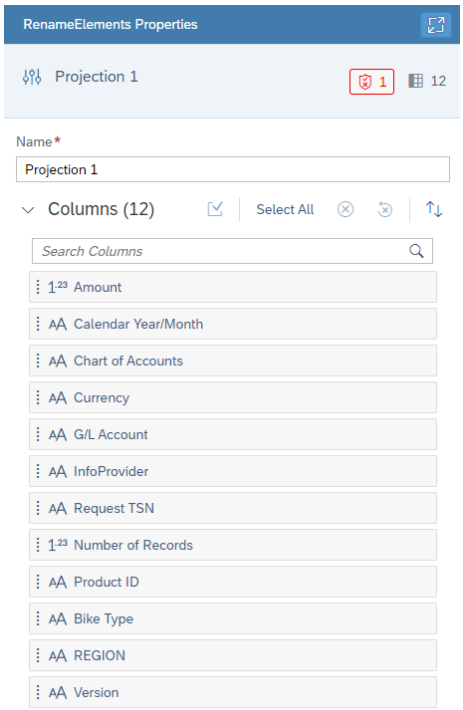
15. Select the second icon from the top, which is the Projection.



16. You are now receiving an additional node connected to the Planning HCPR View and you can now configure, which columns are relevant for the output.

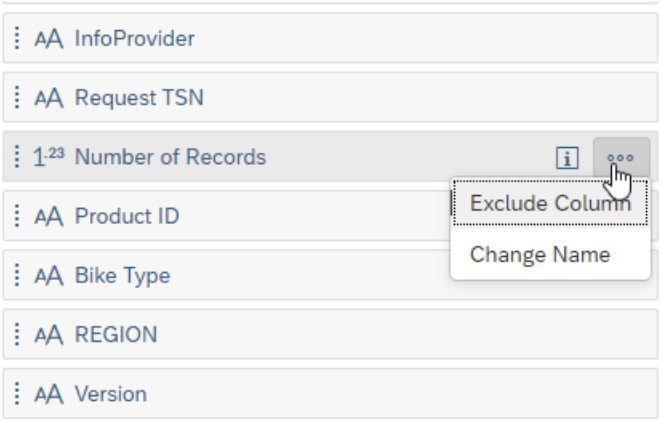


17. Select the new Projection Node.
18. Navigate to the Properties panel on the right hand side.



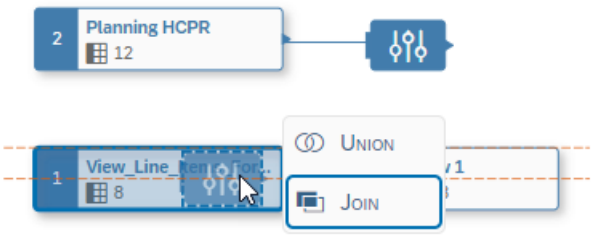
19. Change the Name for the projection to Actual_Data_BW4.
20. Now select the column Number of Records.

21. Open the More menu.



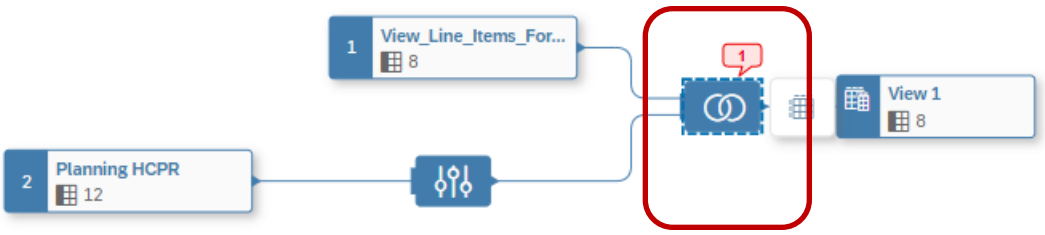
22. Select the option Exclude Column.
23. Repeat the step for the following columns
    - InfoProvider
    - Request TSN
    - Bike Type

24. We now have the Projection for our Actual Data coming from BW/4HANA and we have the View based on the data in HANA Cloud representing the Plan data.
25. Now select the Projection Node on the canvas.
26. Drag the Projection Node on top of the View for the Forecast data from HANA Cloud (keep the mouse clicked)

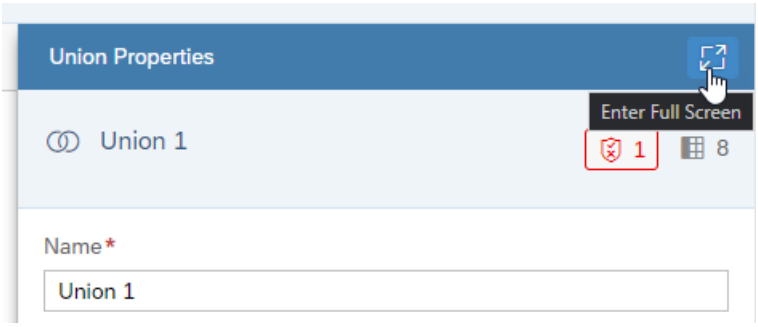


27. You will then be asked if you would like to configure a JOIN or a UNION.

28. Select the option UNION.

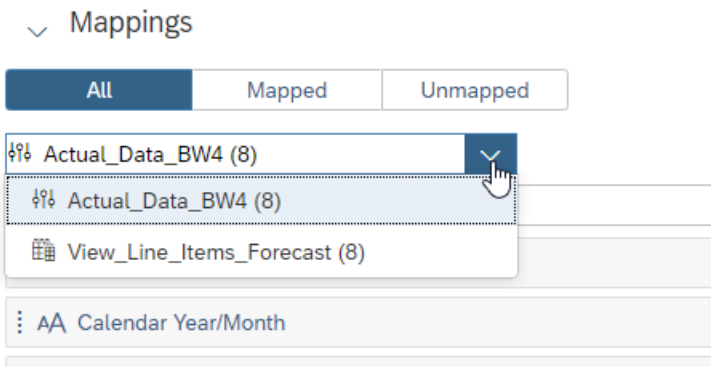


29. Select the UNION node on the canvas.
30. On the right-hand side select the option to maximize the Properties panel.



31. You are being presented with the Union on the right hand side and the data sources on the left hand side.

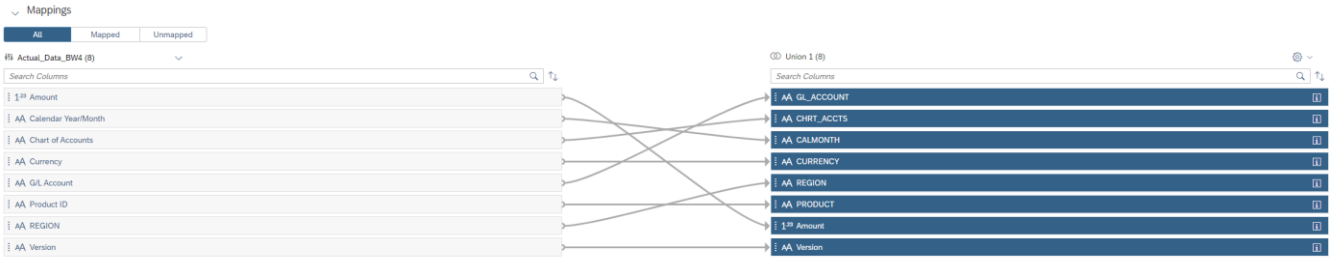
32. On the left-hand side, ensure the Actual_Data_BW4 is selected.



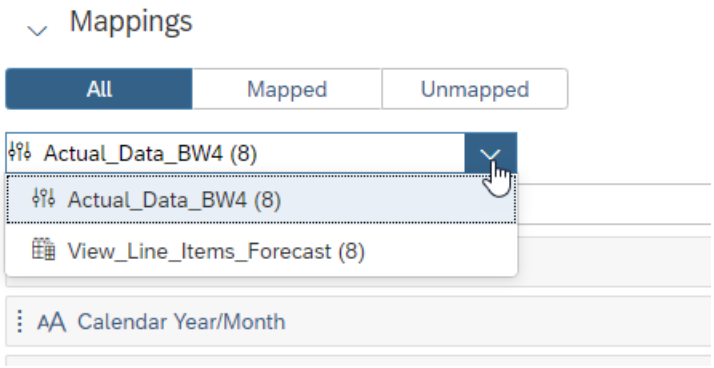
33. Now create the following Mappings:

Actual_Data_BW4	Union 1
Amount	Amount
Calendar Year / Month	CALMONTH
Chart of Accounts	CHRT_ACCTS
Currency	CURRENCY
G/L Account	GL_ACCOUNT
Product ID	PRODUCT
REGION	REGION
Version	Version

34. You can create the mapping by selecting the element on the left-hand side and simply drag and drop it to the corresponding element on the right-hand side.

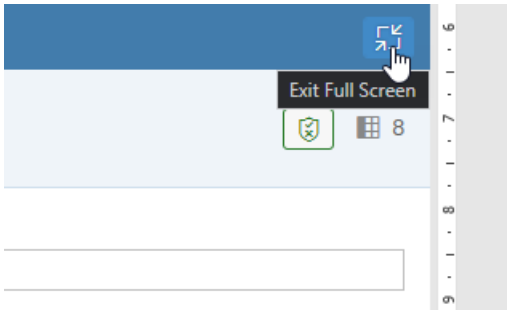


35. On the left-hand side, now select the entry View_Line_Items_Forecast..

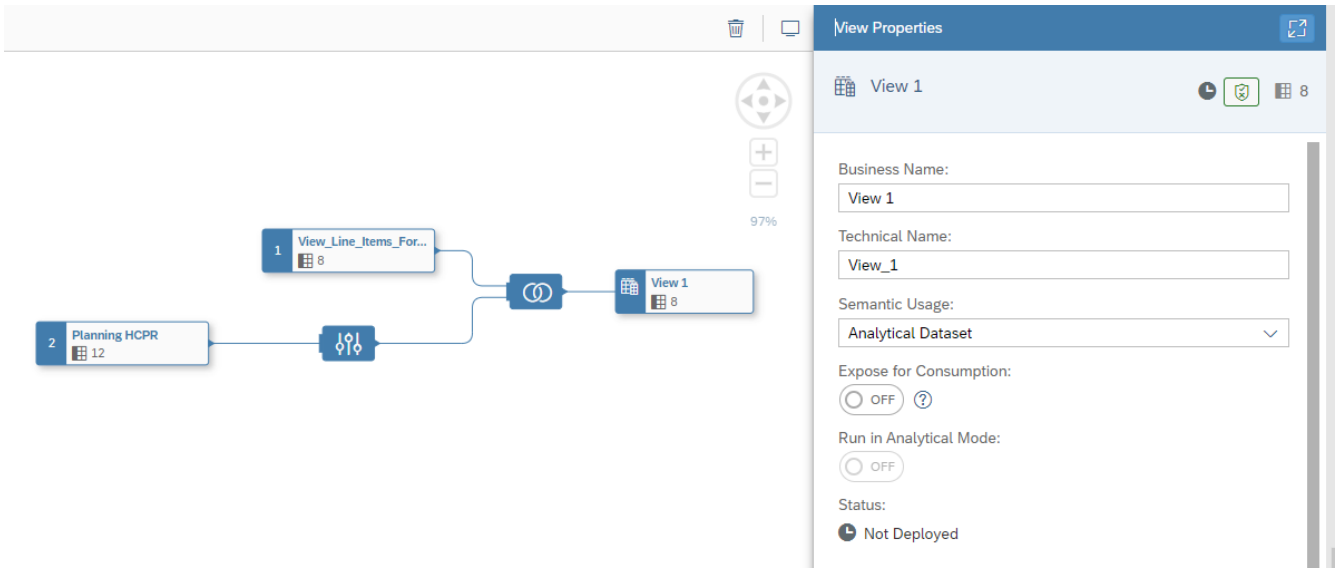


36. All items should be already mapped, but lets double-check.

37. Now use the option in the top-right corner to Exit the Full screen mode for the Properties panel.



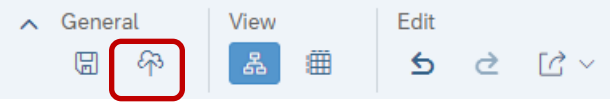
38. Now select the final output node View 1 on the canvas.
39. Navigate to the Properties panel.



40. Enter the following Details:
    - Business Name View_CombinedData
    - Technical Name View_CombinedData
41. Enable the option Expose for Consumption.
42. In the menu bar now select the option to save your changes.

43. You will be asked to confirm the configured Business Name and Technical Name.

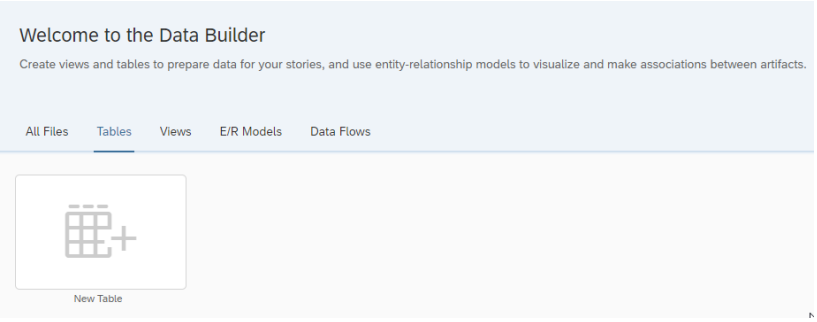
44. Click Save.
45. After you saved the changes use the Deploy option.



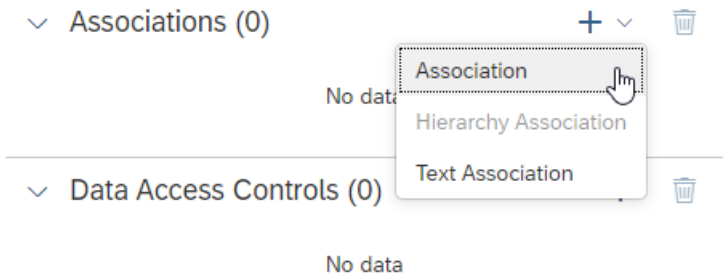
3.7 SAP Data Warehouse Cloud – Exercise 07: Adding Dimension Associations

Our combined dataset only has the Key Columns for the Dimensions, so we going to add the Associations to the Dimension Views and in that way, we can also use the Description values later as part of our visualization.

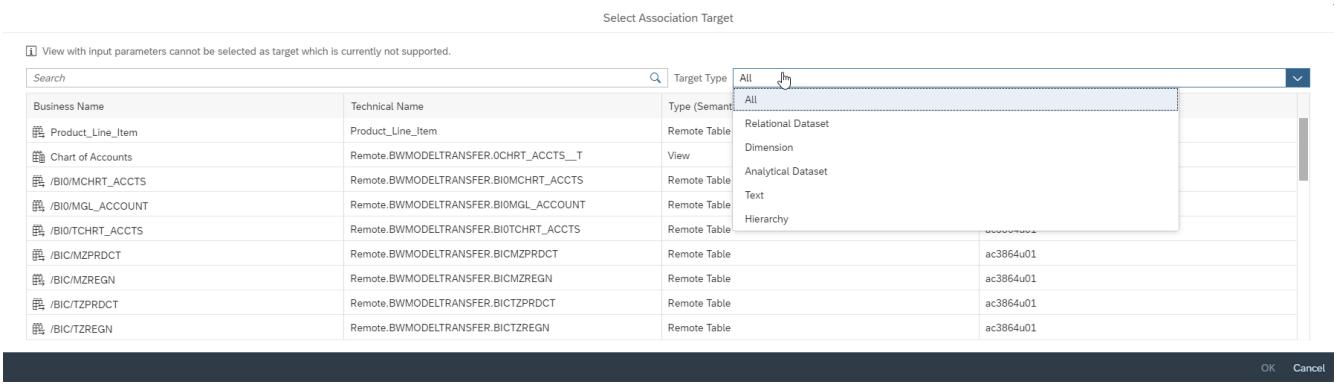
1. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
2. In the top left of the start screen you will find the menu options.
3. By clicking on the menu in the top left (the icon with the three stripes), you can expand the menu to also show the menu text.
4. Select the menu entry Data Builder.



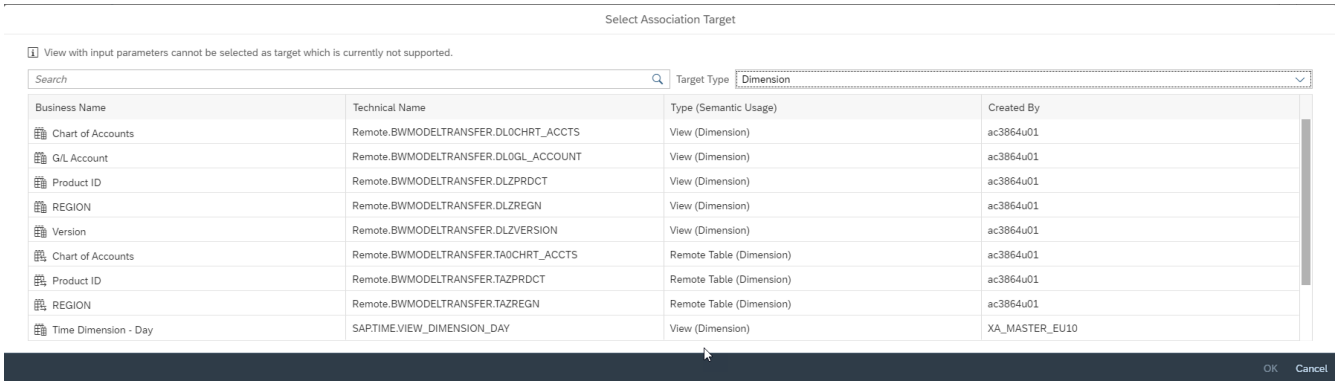
5. Click on the tab Views.
6. Click on the View from the previous steps – View_CombinedData.
7. Select the final output node – View_CombinedData.
8. Navigate to the Properties panel.
9. Scroll down to the area Associations.



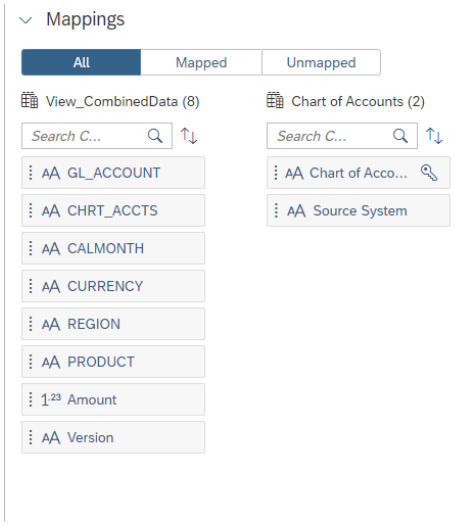
10. Use the plus sign and select the option to add a new Association.
11. You are being presented with the list of available assets.



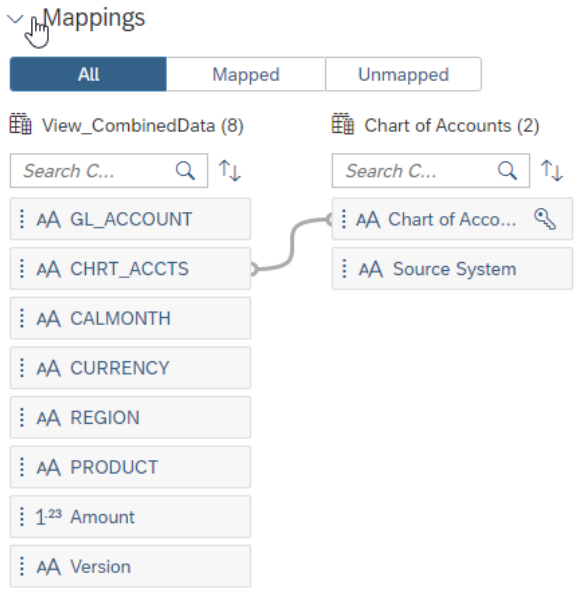
12. Open the list of Target Type(s) and select the entry Dimension.



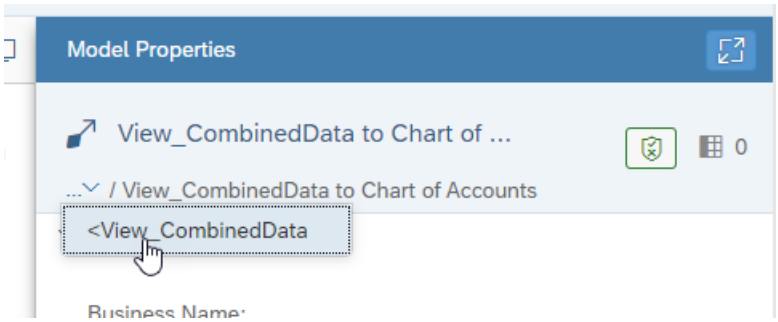
13. Select the entry Chart of Accounts (View (Dimension).
14. Click OK.
15. In the Properties panel on the right hand side you can now define the join between the output and the Dimension View.



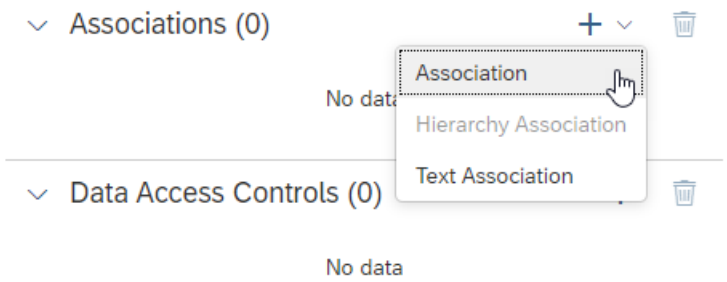
16. Drag and Drop the element CHRT_ACCTS to the colum Chart of Accounts on the right hand side.



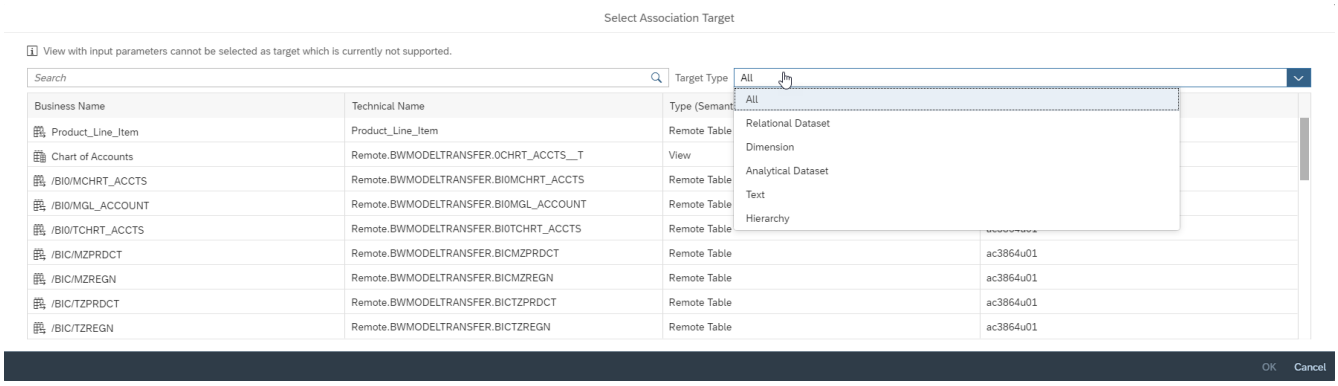
17. In the top of the Properties Panel click on the More option.



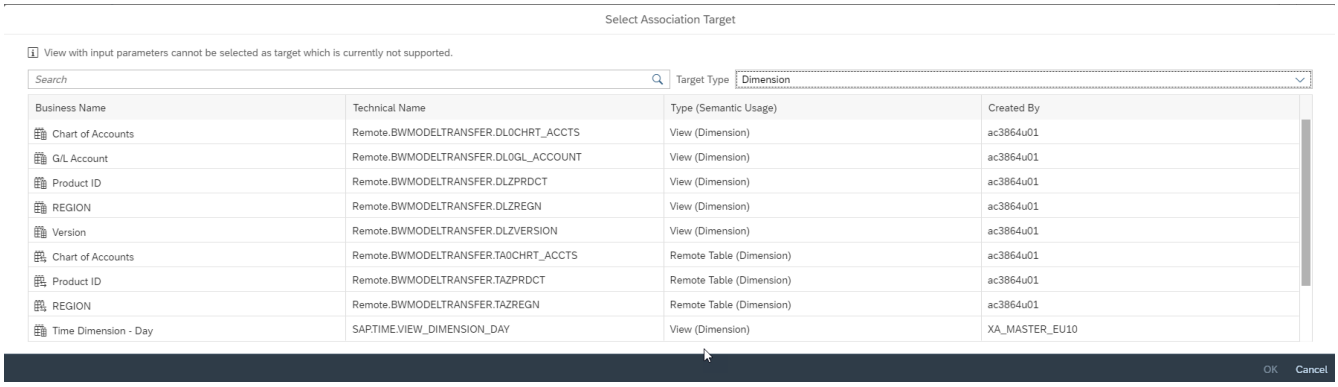
18. Select the entry View_CombinedData to go back to the list of Associations.
19. Scroll down to the area Associations.



20. Use the plus sign and select the option to add a new Association.
21. You are being presented with the list of available assets.

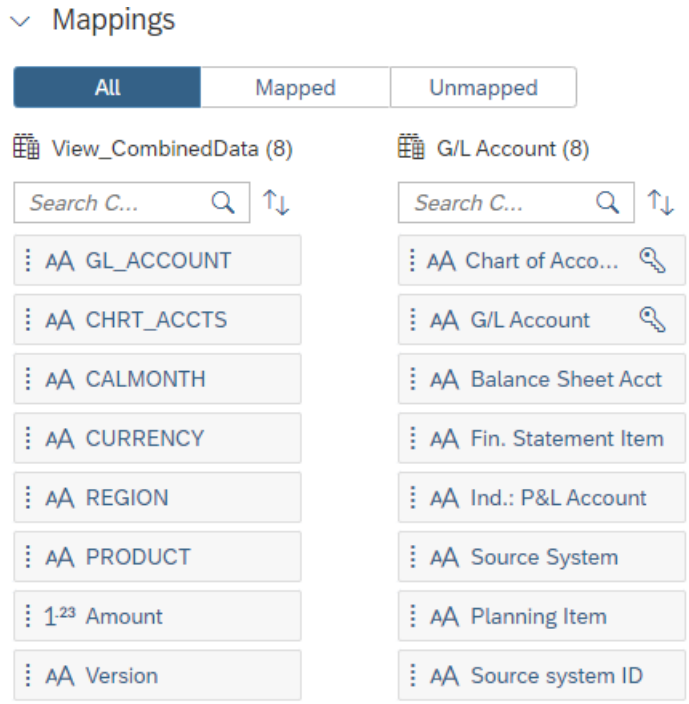


22. Open the list of Target Type(s) and select the entry Dimension.

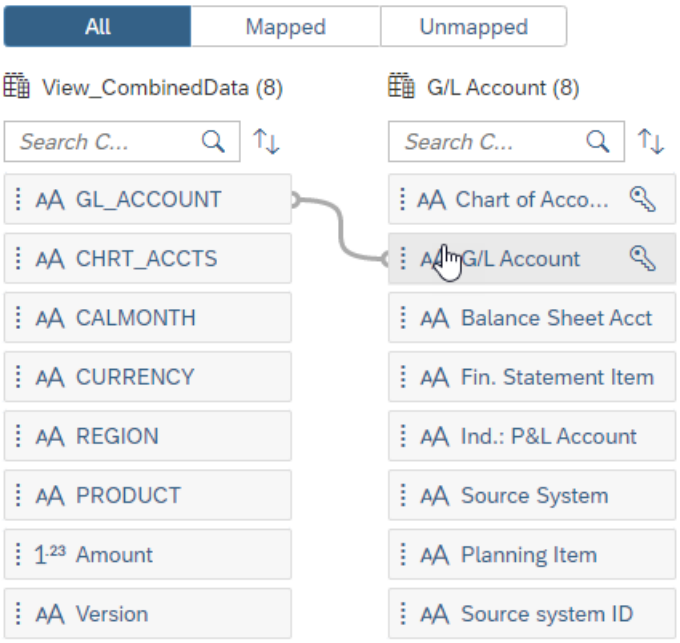


23. Select the entry G/L Account (View (Dimension)).
24. Click OK.

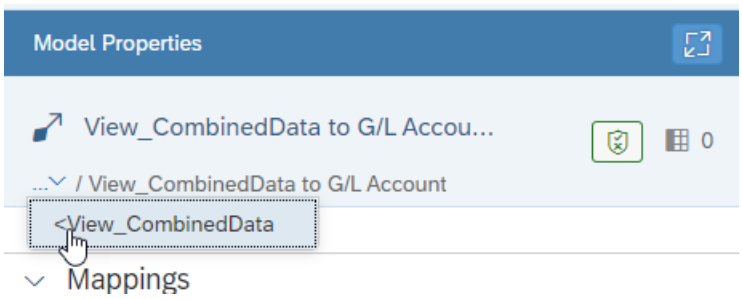
25. In the Properties panel on the right hand side you can now define the join between the output and the Dimension View.



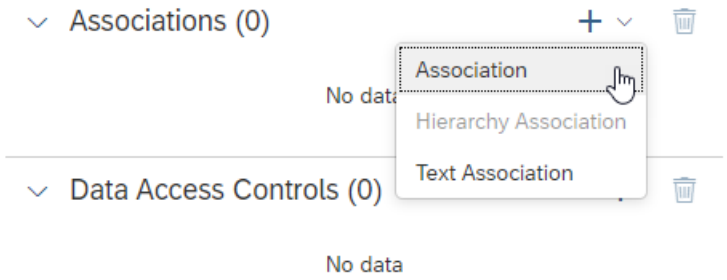
26. Drag and Drop the element GL_ACCOUNT to the colum G/L Account on the right hand side.



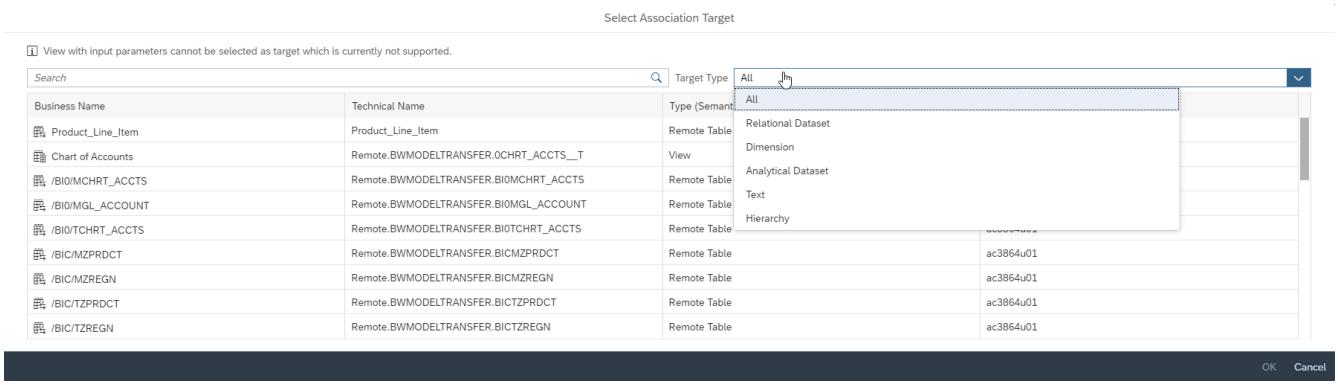
27. In the top of the Properties Panel click on the More option.



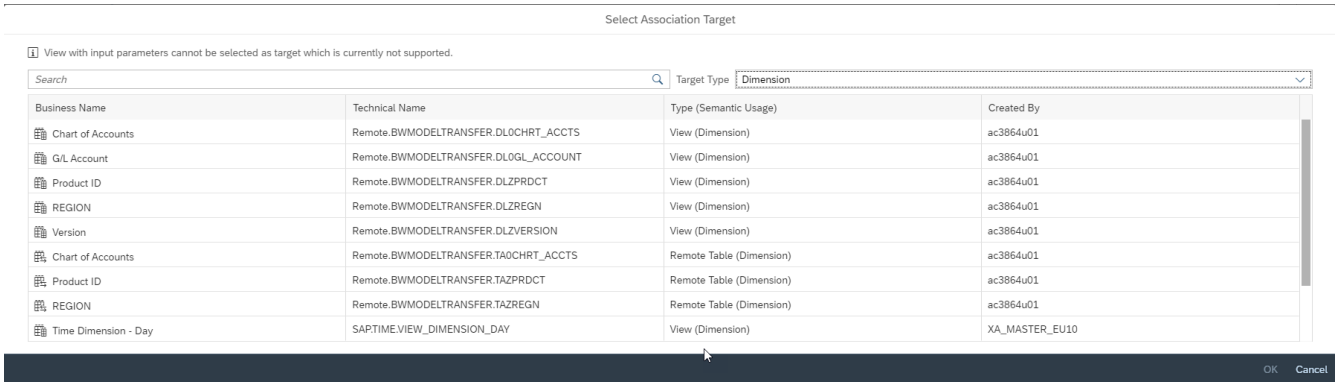
28. Select the entry View_CombinedData to go back to the list of Associations.
29. Scroll down to the area Associations.



30. Use the plus sign and select the option to add a new Association.
31. You are being presented with the list of available assets.

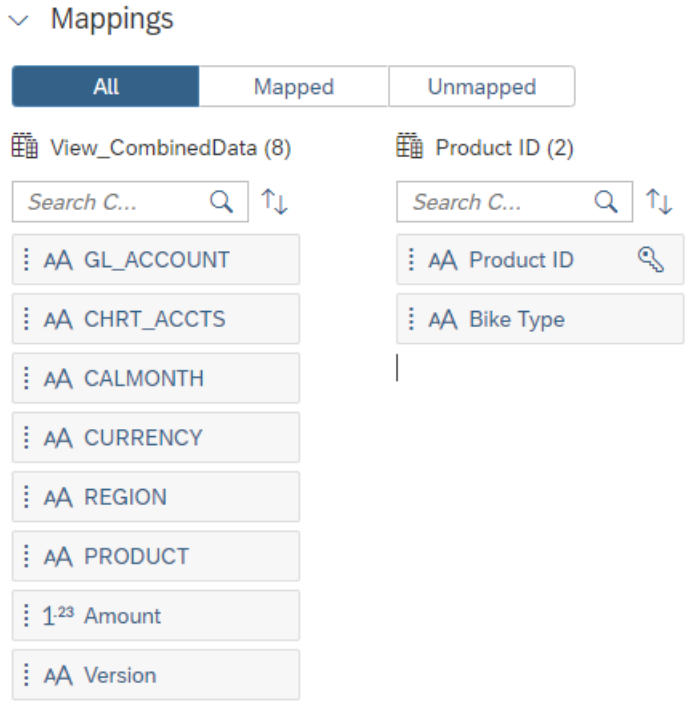


32. Open the list of Target Type(s) and select the entry Dimension.

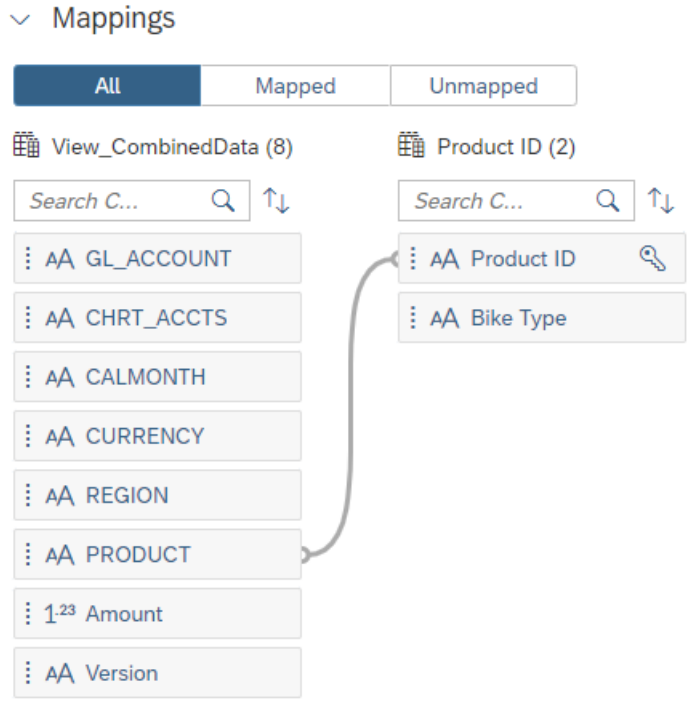


33. Select the entry Product ID (View (Dimension)).
34. Click OK.

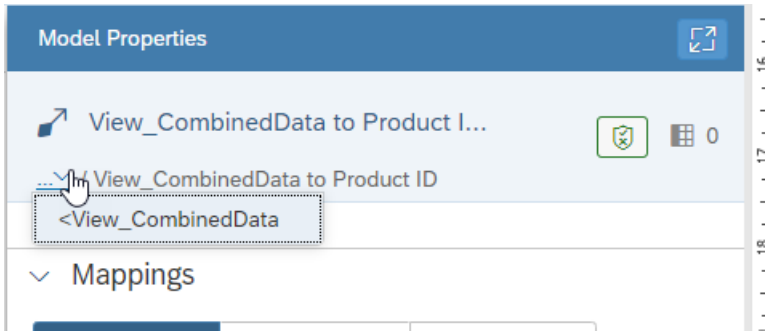
35. In the Properties panel on the right hand side you can now define the join between the output and the Dimension View.



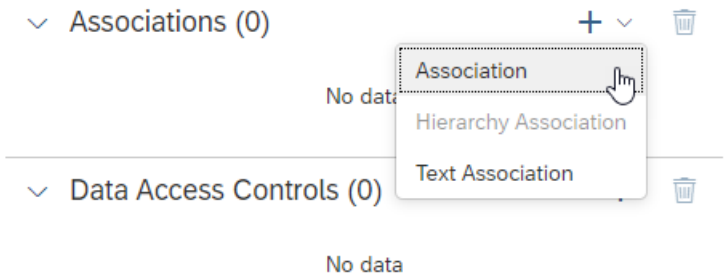
36. Drag and Drop the element PRODUCT to the colum Product ID on the right hand side.



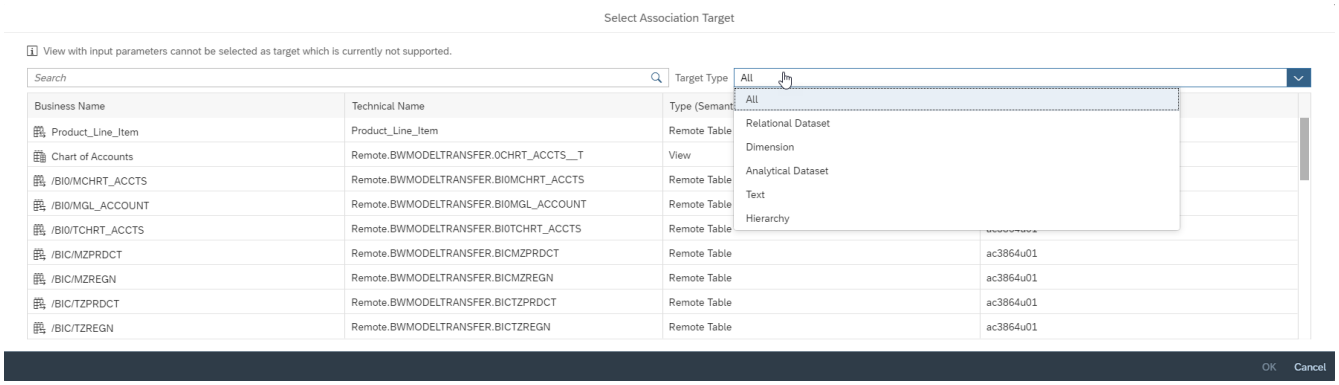
37. In the top of the Properties Panel click on the More option.



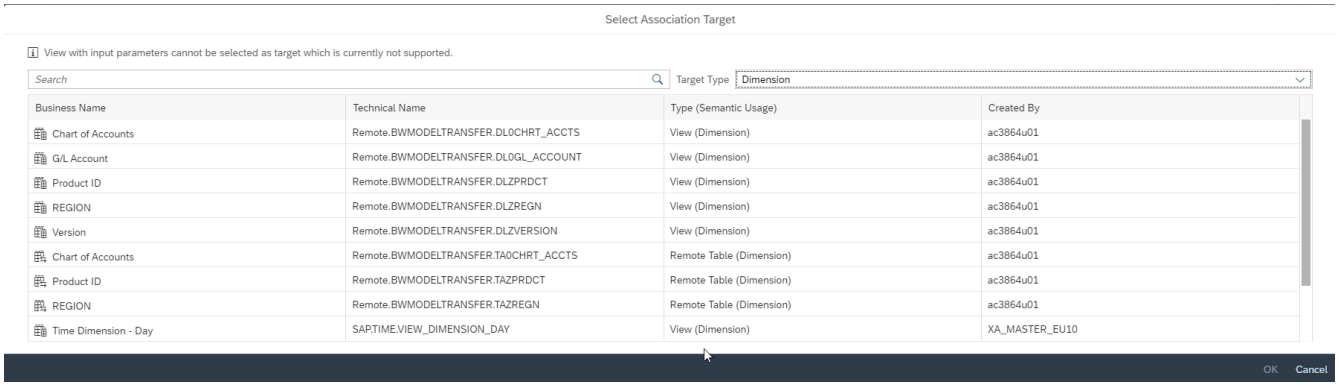
38. Select the entry View_CombinedData to go back to the list of Associations.
39. Scroll down to the area Associations.



40. Use the plus sign and select the option to add a new Association.
41. You are being presented with the list of available assets.

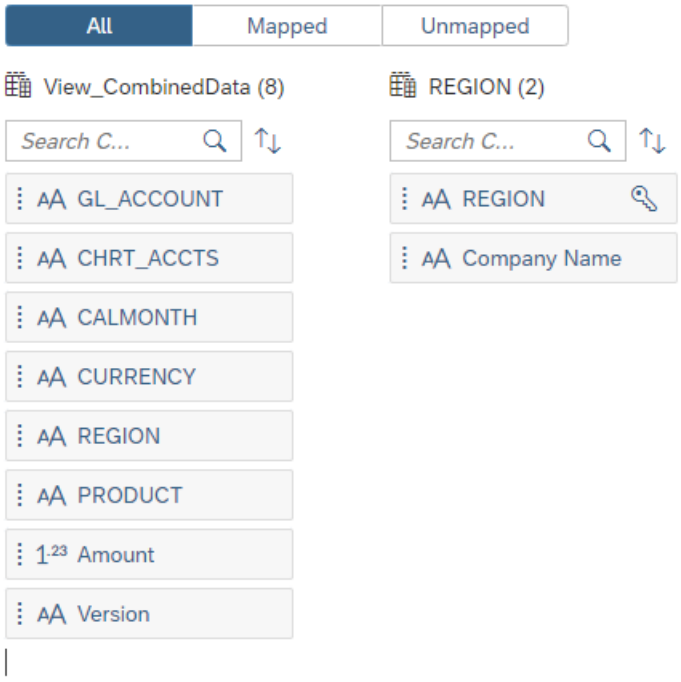


42. Open the list of Target Type(s) and select the entry Dimension.

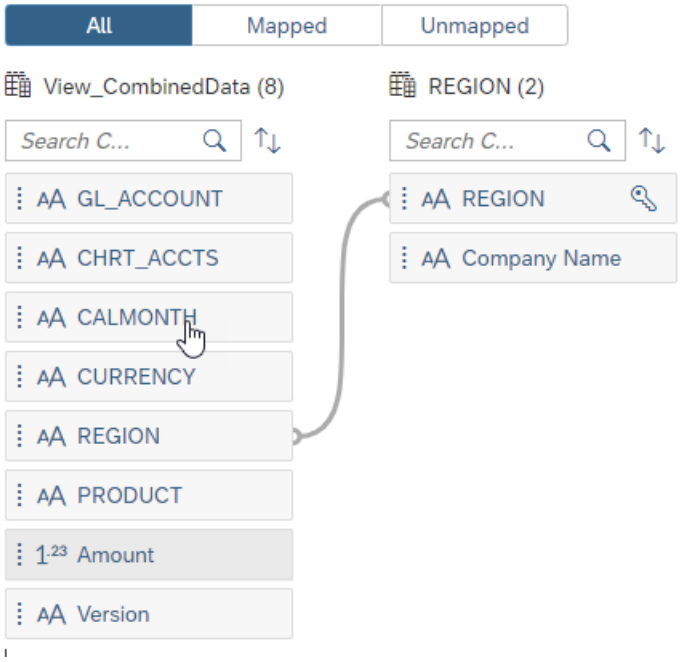


43. Select the entry REGION (View (Dimension).
44. Click OK.

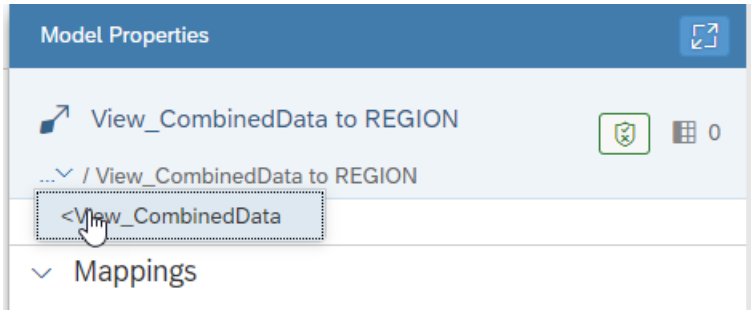
45. In the Properties panel on the right hand side you can now define the join between the output and the Dimension View.



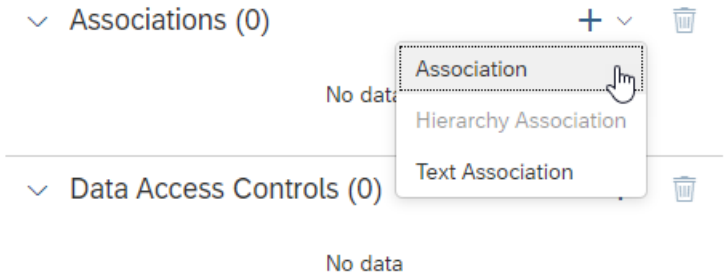
46. Drag and Drop the element REGION to the colum REGION on the right hand side.



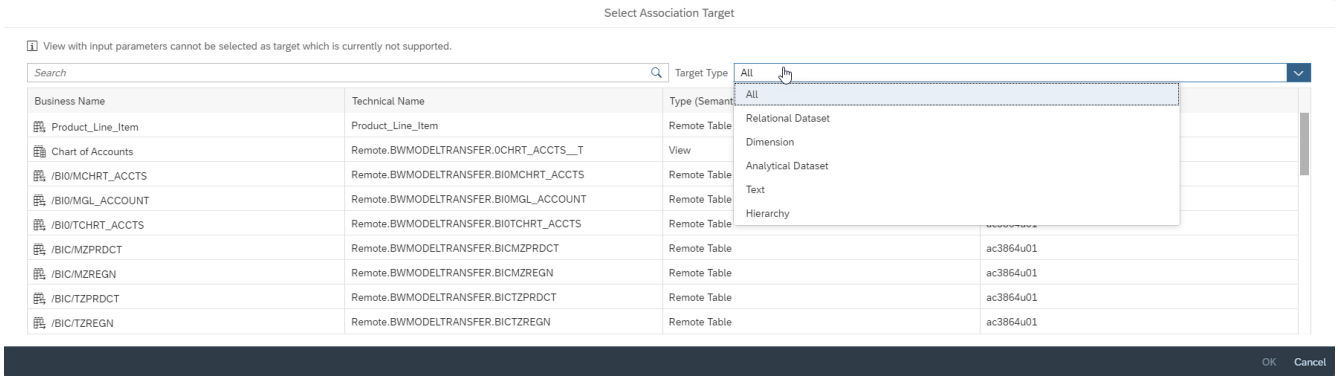
47. In the top of the Properties Panel click on the More option.



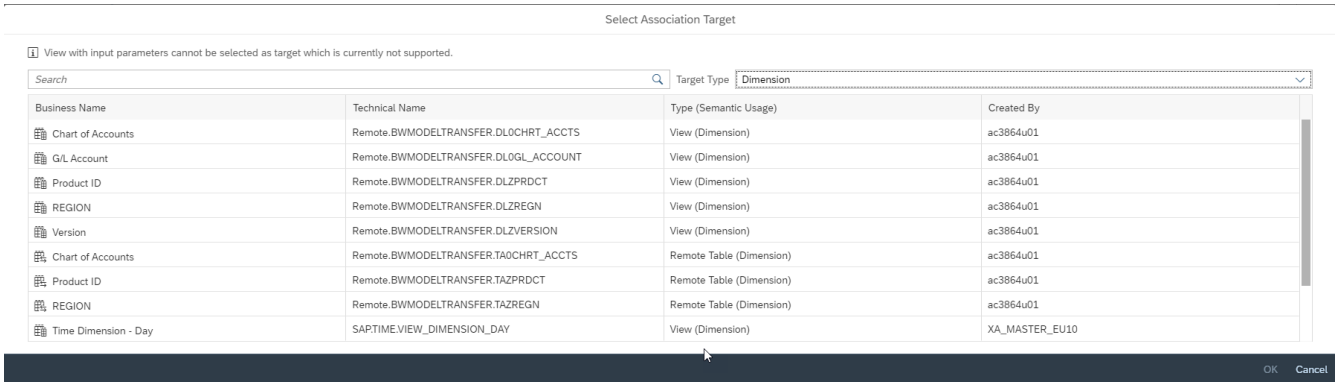
48. Select the entry View_CombinedData to go back to the list of Associations.
49. Scroll down to the area Associations.



50. Use the plus sign and select the option to add a new Association.
51. You are being presented with the list of available assets.

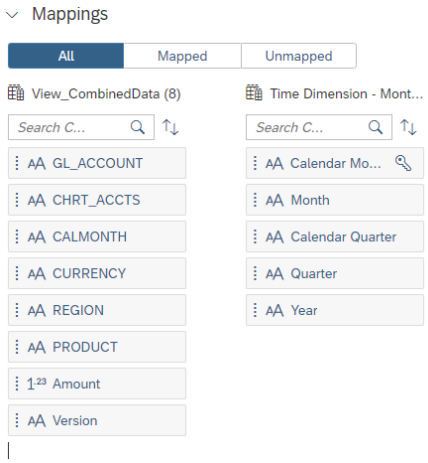


52. Open the list of Target Type(s) and select the entry Dimension.

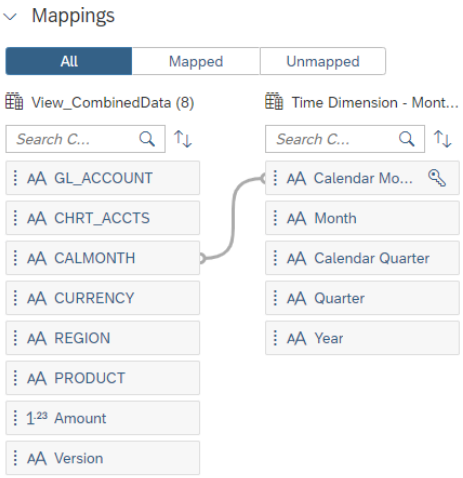


53. Select the entry Time Dimension – Month (View (Dimension)).
54. Click OK.

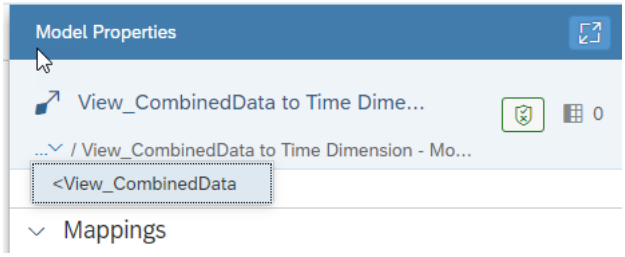
55. In the Properties panel on the right hand side you can now define the join between the output and the Dimension View.



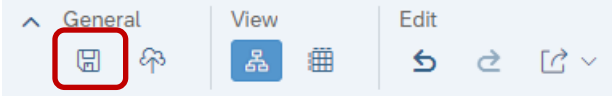
56. Drag and Drop the element CALMONTH to the colum Calendar Month on the right hand side.



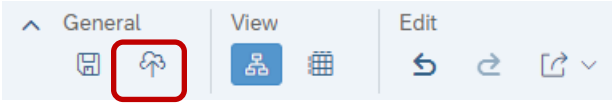
57. In the top of the Properties Panel click on the More option.



58. Select the entry View_CombinedData to go back to the list of Associations.
59. In the menu bar now select the option to save your changes.



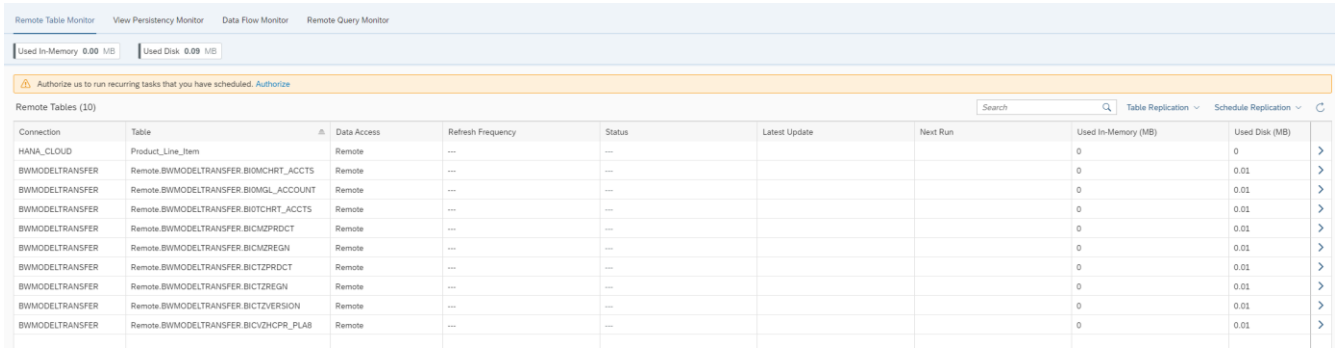
60. Click Save.
61. After you saved the changes use the Deploy option.



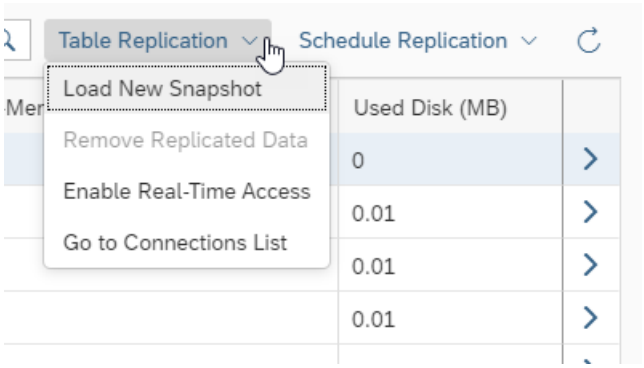
3.8 SAP Data Warehouse Cloud – Exercise 08: Replicating Plan Data

In our example, the Plan Data is based on a Table in HANA Cloud and in the next steps we will configure a Real-Time replication for the table, so that the data is replicated into SAP Data Warehouse Cloud.

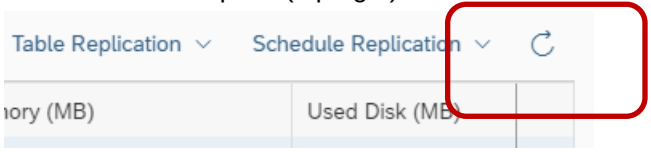
1. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
2. In the top left of the start screen you will find the menu options.
3. By clicking on the menu in the top left (the icon with the three stripes), you can expand the menu to also show the menu text.
4. Select the menu entry Data Integration Monitor.



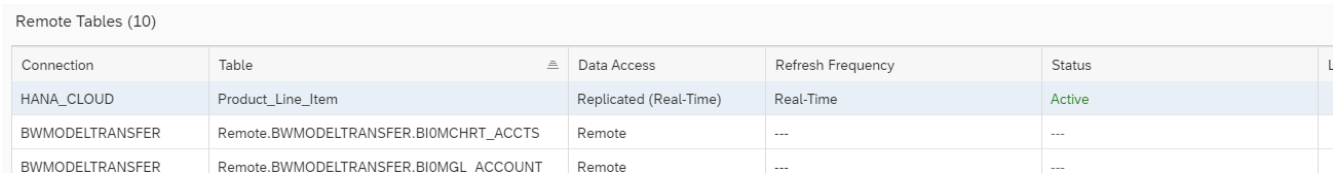
5. Here we can see all the Remote Tables in our system and we have the option to configure a Replication of the data.
6. Select the entry for the table Product_Line_Item based on the connection HANA_Cloud.
7. In the top right open the menu Table Replication.



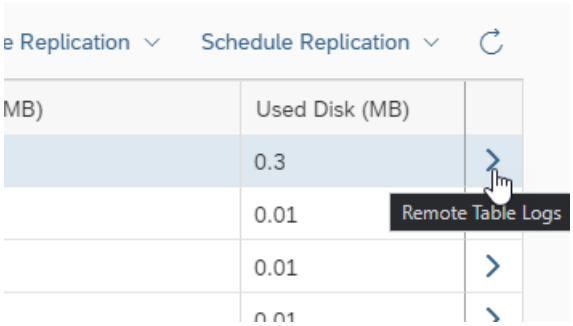
8. You have the option to create a new snapshot – which is a one time replication and you can configure the Real-Time Access.
9. Select the option Enable Real-Time Access.
10. After a short while you will get a Notification that it has been configure.
11. Use the Refresh option (top right).



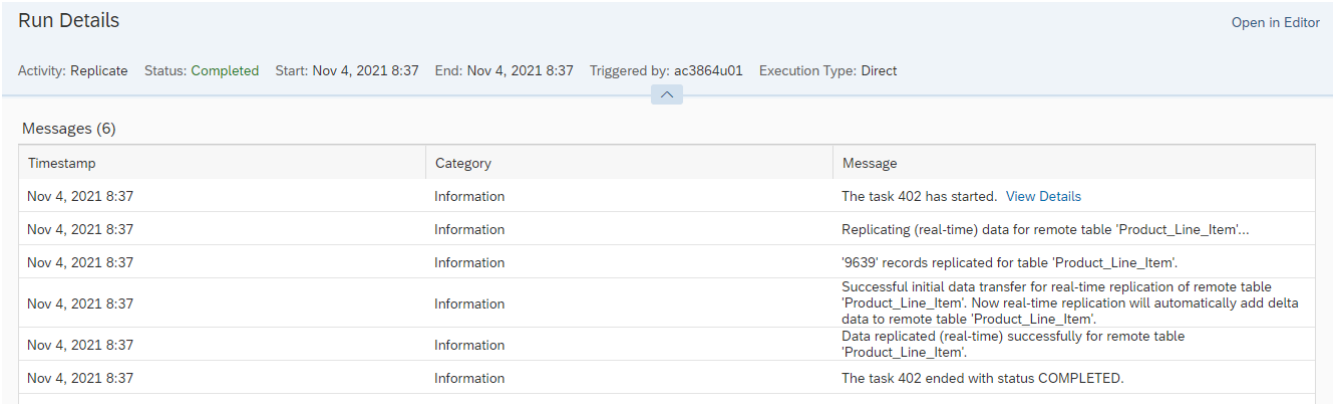
12. The Status of the table should be changed to Replicated (Real Time).



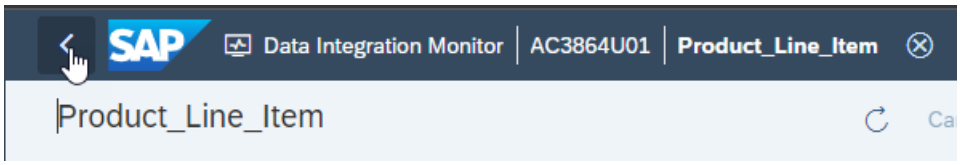
13. Selec the table Product_Line_Item on the list.
14. Use the option (>) on the far right to open more details.



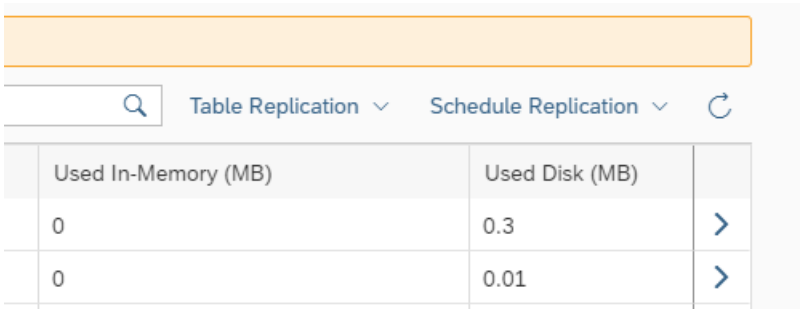
15. You can see the details of the Real-Time Replication.



16. Use the Back option in the menu bar.



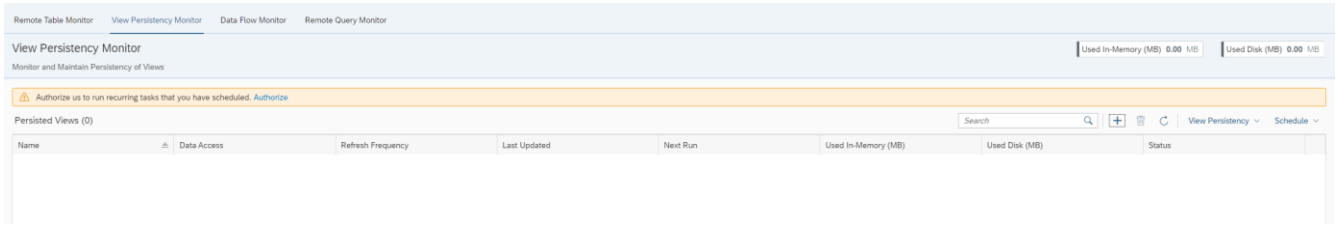
17. You can also see the allocated space for the replicated data.



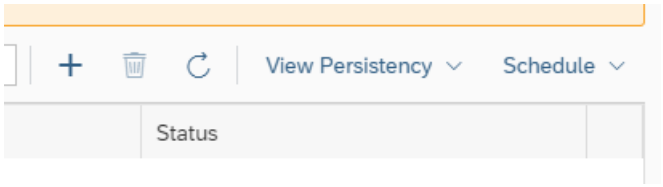
3.9 SAP Data Warehouse Cloud – Exercise 09: View Persistency

In the previous steps we configured the real-time replication of the data from HANA Cloud into SAP Data Warehouse Cloud. Another option to persist a specific view is also the View Persistency.

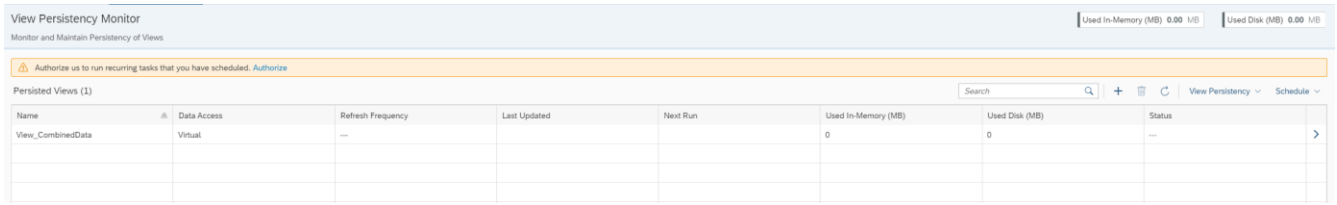
1. Open Google Chrome and log on to your SAP Data Warehouse Cloud system.
2. In the top left of the start screen you will find the menu options.
3. By clicking on the menu in the top left (the icon with the three stripes), you can expand the menu to also show the menu text.
4. Select the menu entry Data Integration Monitor.
5. Select the tabl View Persistency Monitor.



6. Here we can see all the scheduled persistencies for the Views in our system and we have the option to configure a new persistency.
7. In the toolbar click the “+” sign to create a new Persistency.

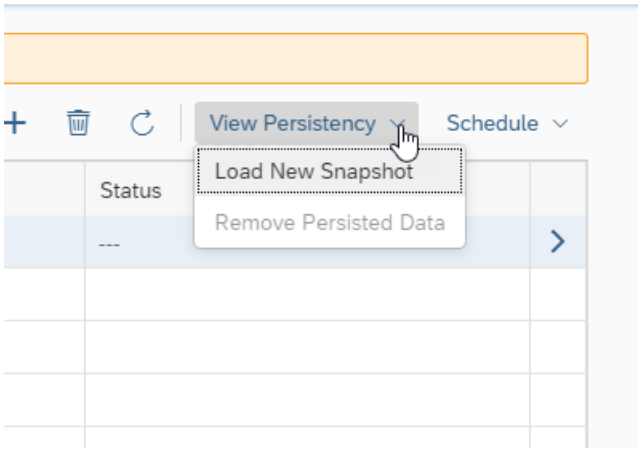


8. You are presented with the list of views in your system.
9. Select the entry for our combined data set – View_CombinedData.
10. Click OK.

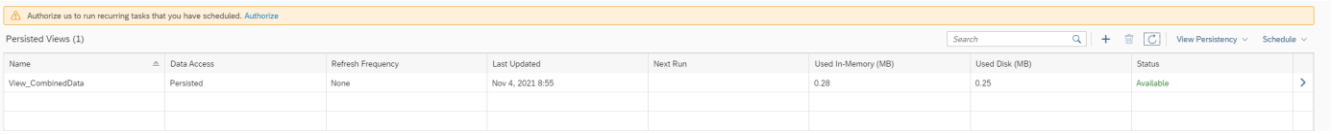


11. Select the entry View_CombinedData in the list.

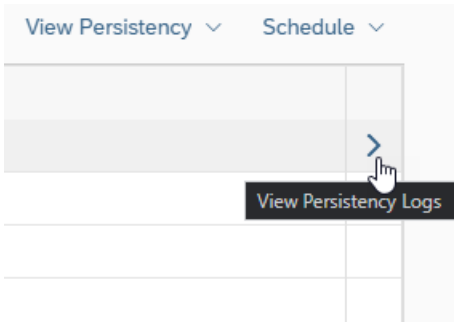
12. Now open the menu View Persistency.



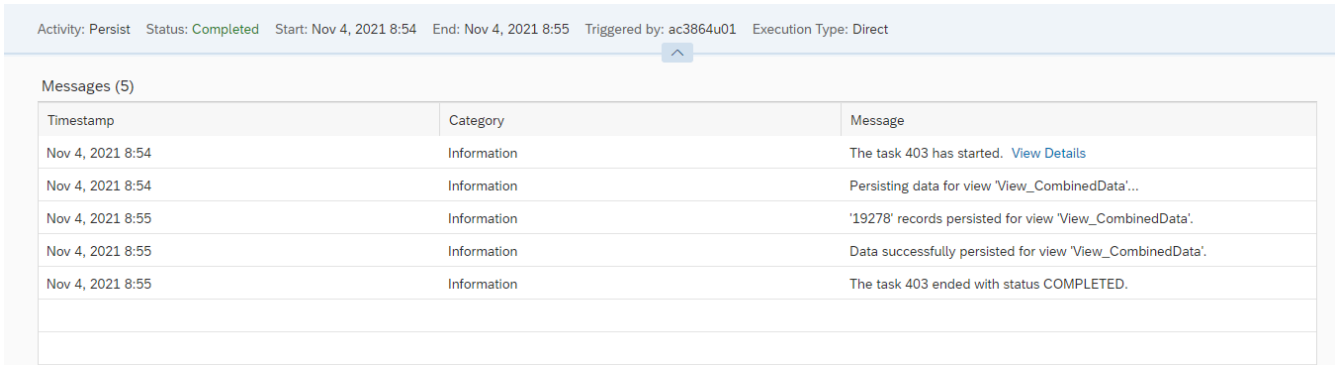
13. Select the option Load New Snapshot.
14. You will receive a notification that it has been configured and shortly after that you receive a notification that it has been completed.
15. Use the Refresh option in the toolbar to refresh the table.



16. Now use the option to see further details on the right-hand side.



17. Like with the Replication, you can see the complete details.



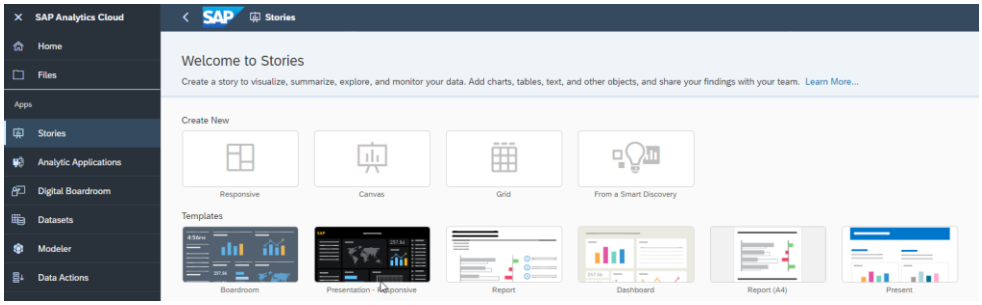
18. You also have the ability to create a recurring schedule for the persistency. The system itself will always keep the latest persistency and when you access the View via SAP Analytics Cloud, the user will receive the persisted data set.

3.10 SAP Analytics Cloud – Exercises 10: Actual and Plan Comparison

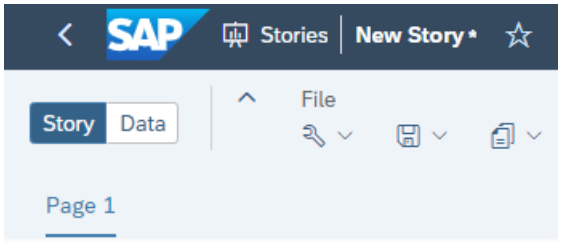
In this exercise we will setup a story in SAP Analytics Cloud and leverage our combined dataset and create a comparison of the Actual and Plan information.

Please make sure that you select the SAP Analytics Cloud tenant in the region that matches the region of your SAP Data Warehouse Cloud tenant.

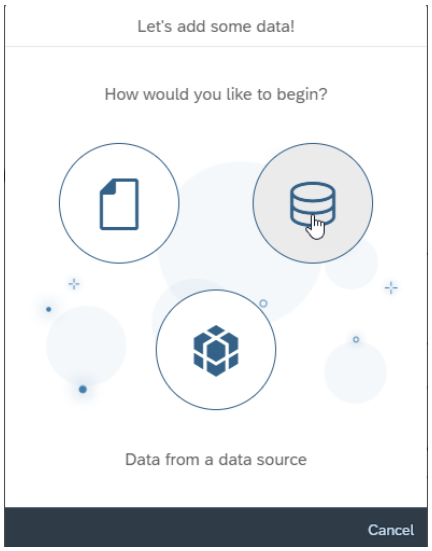
1. Log On to your SAP Analytics Cloud tenant.
2. Select the menu Stories in the left-hand panel.



3. Select the option Canvas to create a new Story.
4. In the toolbar click on “Data” (top left) to add data from SAP Data Warehouse Cloud to your Story.

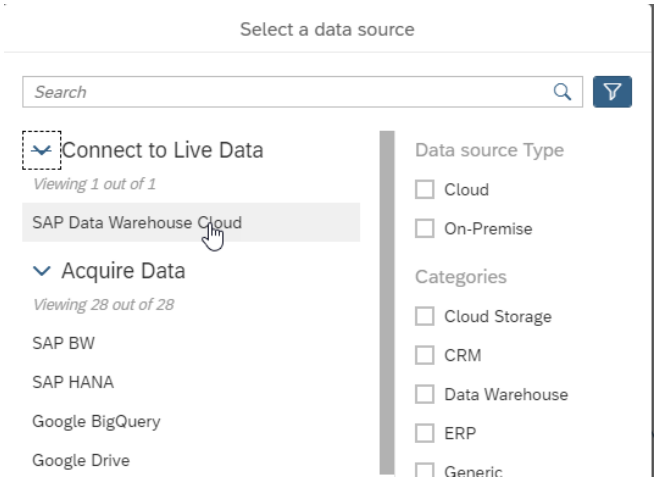


5. Select the option Data From Data Source.

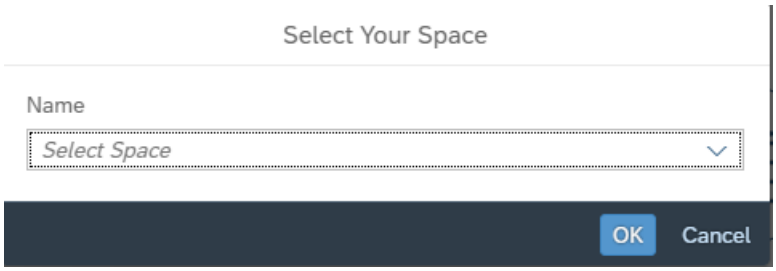


6. Open the list Connect to Live Data.

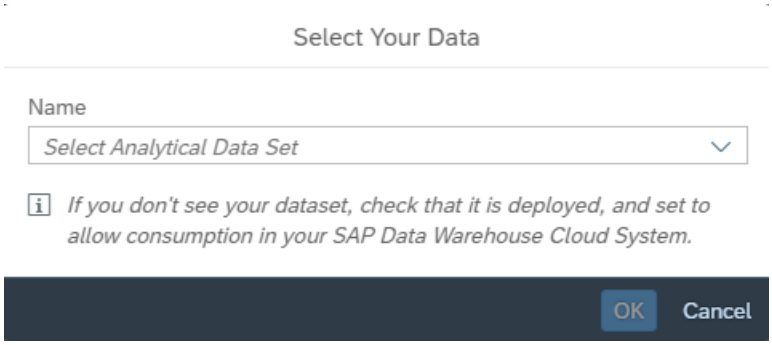
7. Select the entry SAP Data Warehouse Cloud.



8. When being asked to select a SPACE, select the Space assigned to your user number – AC3864U<XX> (replace XX with your user number)..

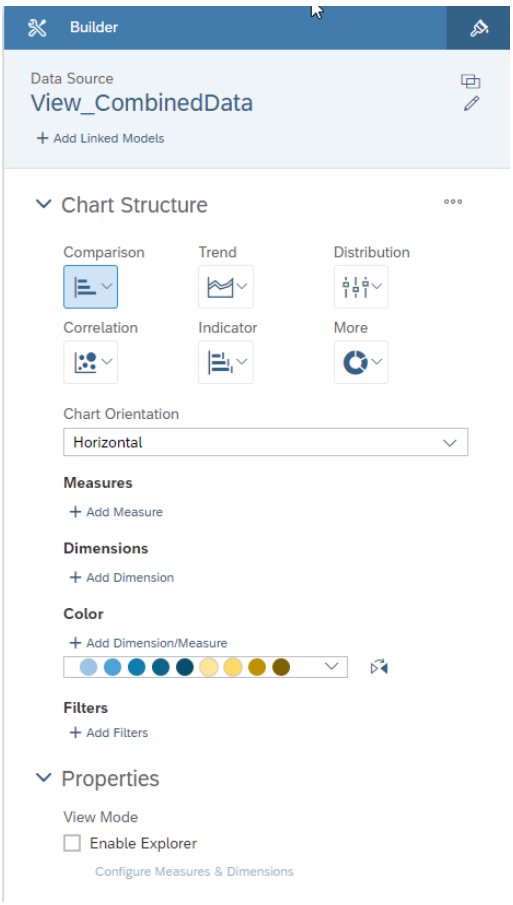


9. Click OK.

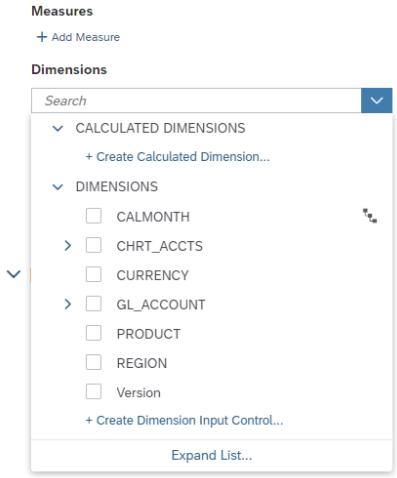


10. Afterwards you will be asked to select the Analytical Data Set.
11. For our example, select the Analytical Dataset View_CombinedData.
12. Click OK.
13. Select the option to add a Chart.
14. Now select the newly created empty chart on the canvas.

15. Navigate to the Builder Panel on the right hand side.

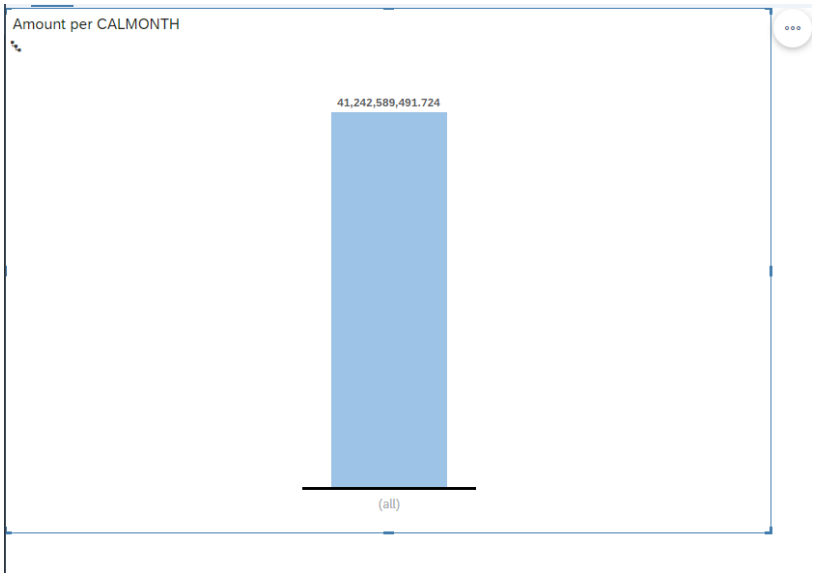


16. Click Add Dimension as part of the Dimensions section.



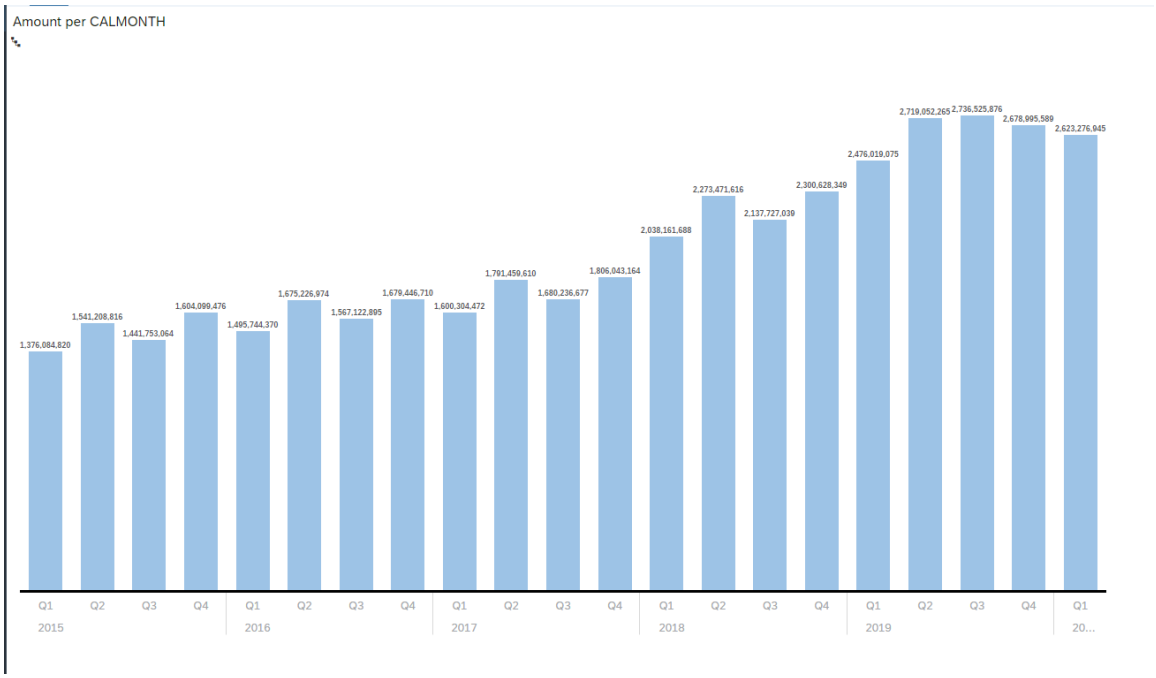
17. Select CALMONTH.
18. Click Add Measure as part of the Measures section.

19. Select the measure Amount.



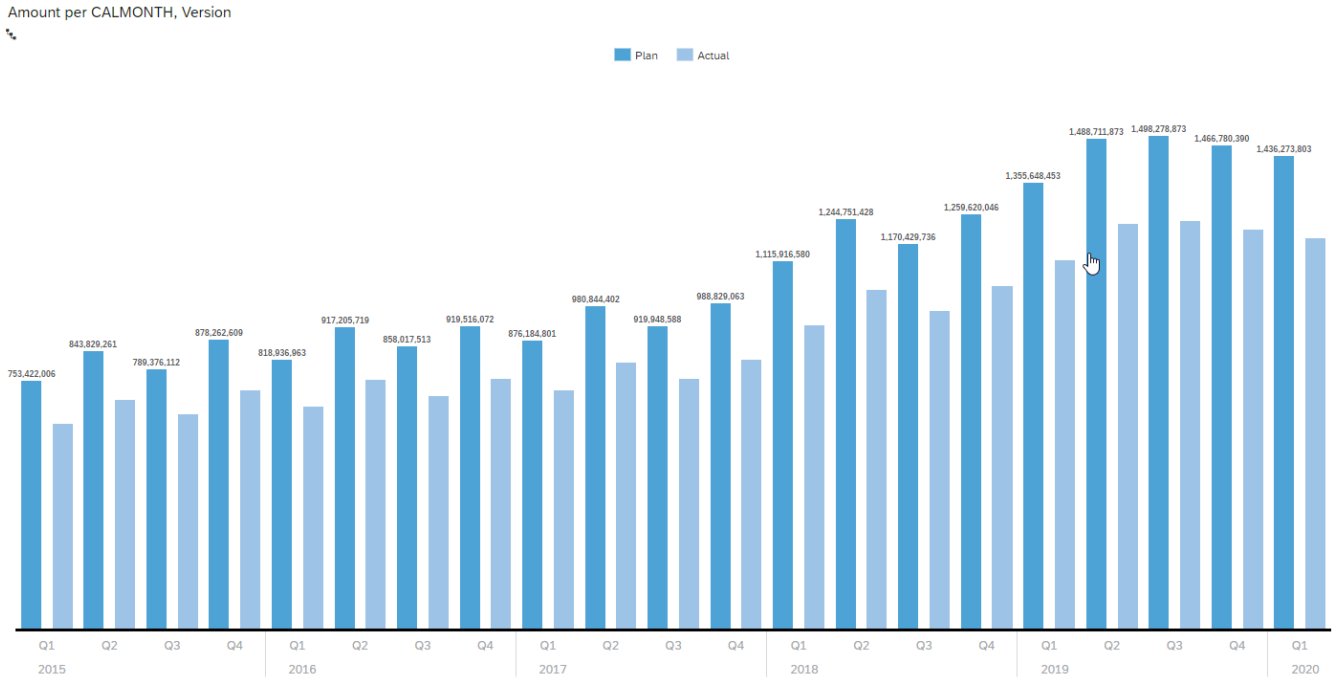
20. Navigate to the Dimensions area in the Builder panel.
21. Select the hierarchy menu for dimension CALMONTH.

22. Select the option Level 3 – which represents the Quarter.



23. Navigate to the area Color in the Builder Panel.
24. Click on Add Dimension / Measure.

25. Select Dimension Version.



www.sap.com/contactsap

© 2021 SAP SE or an SAP affiliate company. All rights reserved.
No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

The information contained herein may be changed without prior notice. Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platform directions and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, and they should not be relied upon in making purchasing decisions.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies. See www.sap.com/copyright for additional trademark information and notices.