## Inner Join

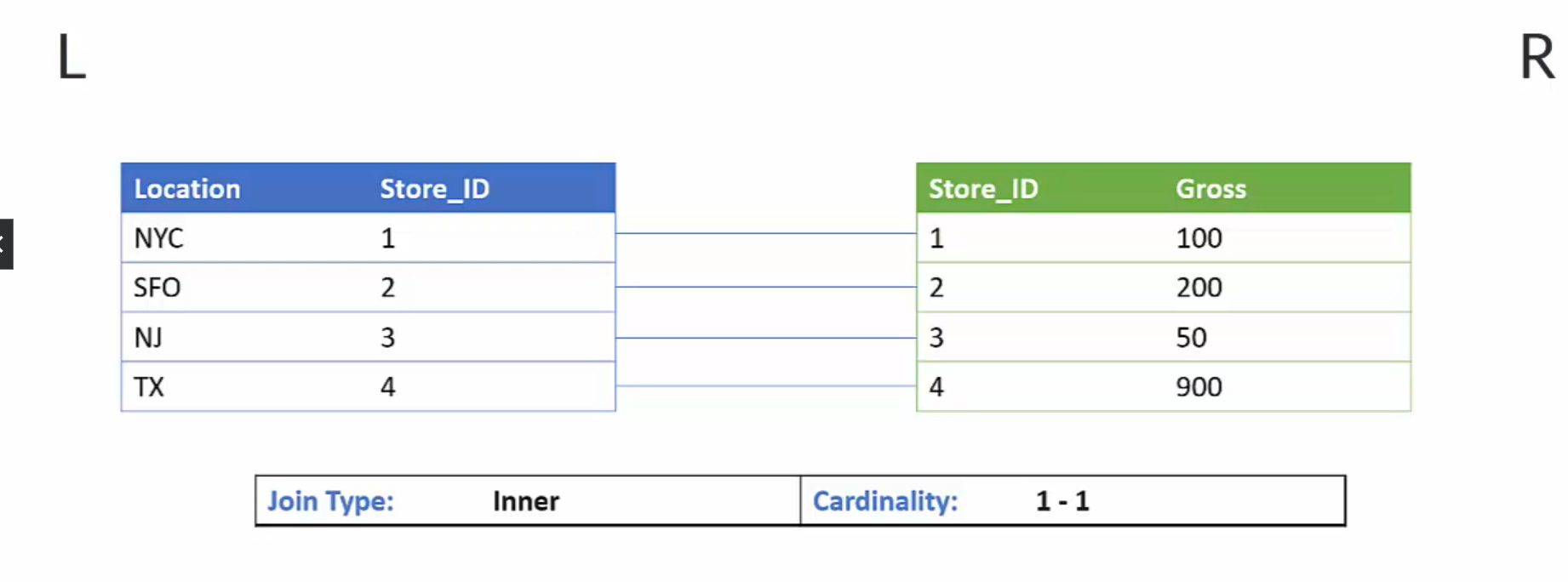


Figure 1 Inner Join Cenario.

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Figure 2 Result of Inner Join.

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Figure 3 I-N cardinality for Inner Join.

In MD.Address table we have ADDRESSID as key figure

Querry: -

select \* from "FL\_HDI\_DB\_1"."MD.BusinessPartner" as A

Inner Join "FL\_HDI\_DB\_1"."MD.Addresses" as B

on A."ADDRESSES.ADDRESSID" = B."ADDRESSID"

1-N Cardinality

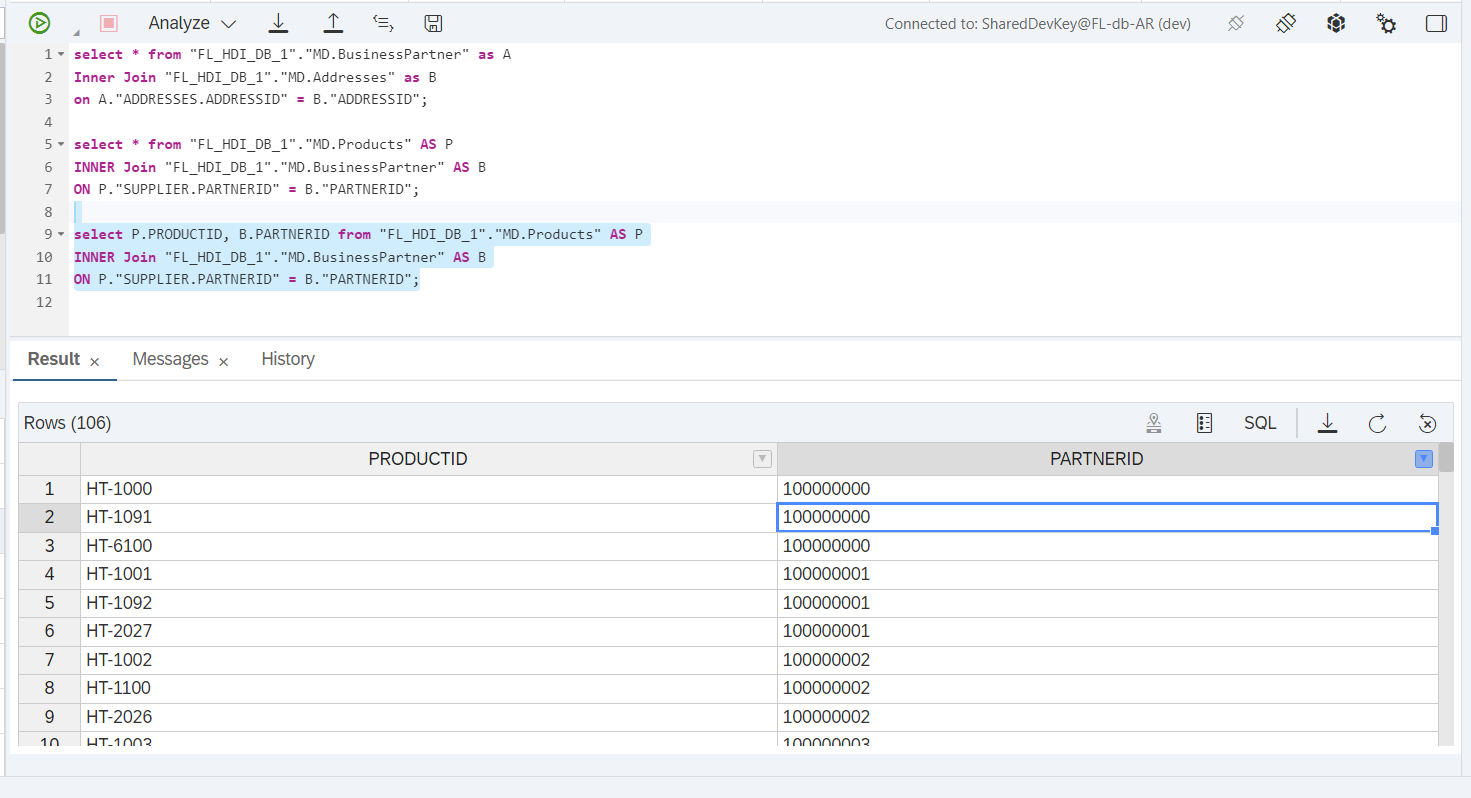
We will join the Products table with Business partner table.

Products we have PRODUCTID as primary key

1 Partner has multiple products

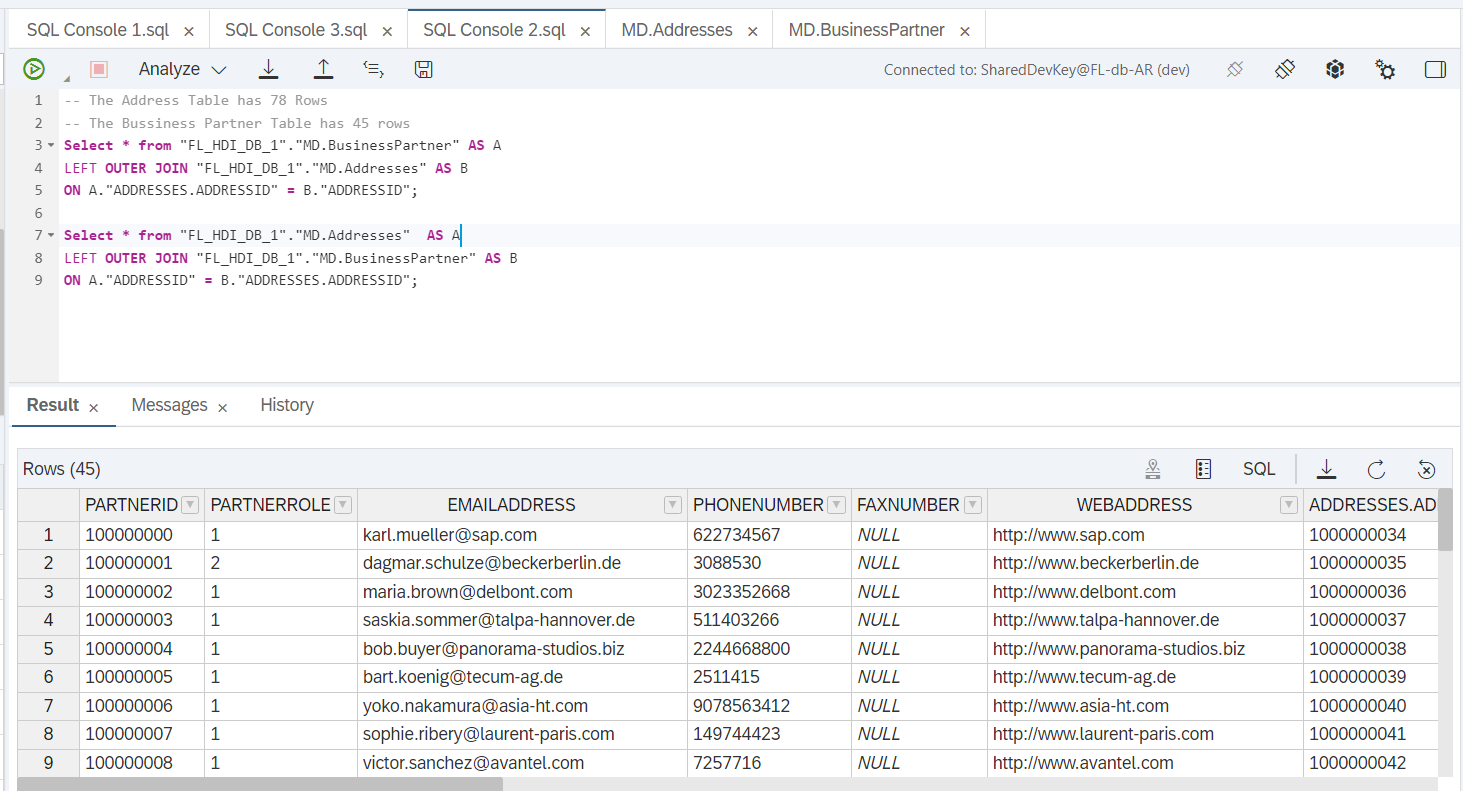
In sql querry we cannot give the cardinality depending on the data it takes the cardanility

In this case for one partner we have multiple product to it



## Left Outer Join

Left outer join means we want all the data from the left table weather or not it have matching records in the right table



Here in this case left table has 45 rows so in the output it is displaying 45 rows and vice versa in 2nd Querry we have the left table as Address table it have 78 rows so in the output it is showing us 78 rows in output.

## Right Outer Join

In this case of right outer join we need to take the whole data from right table whether there is any matching element or not from the left table

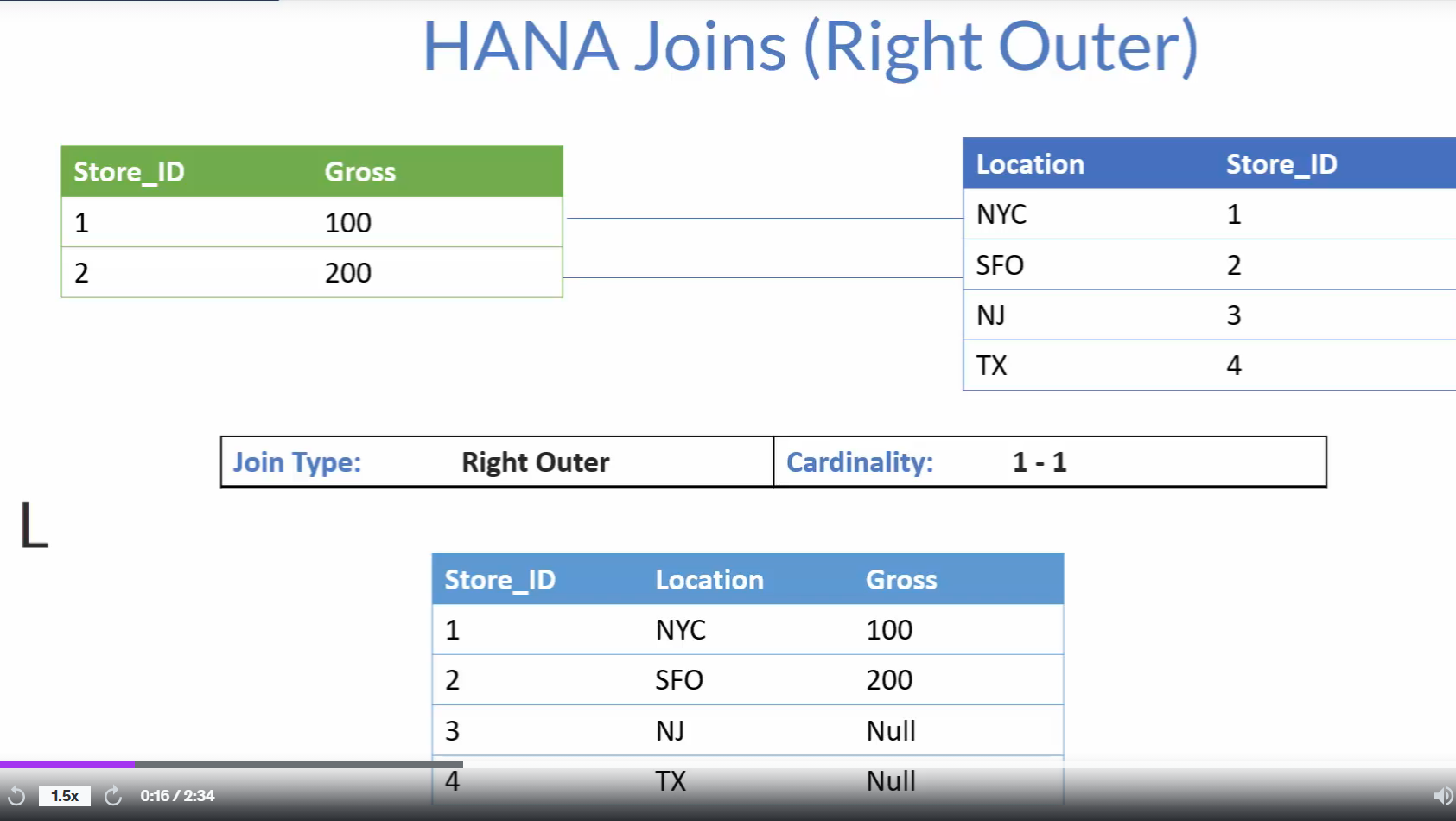


Figure 4 Right Outer Join.

## Full Outer Join

In Full Outer Join the data from both tables gets fetched that means it the left table doesn’t have any common elements from the right table it will also get fetched and vice versa if the right table doesn’t have any common elements from the left table even though it will fetch the entire data common data as well.

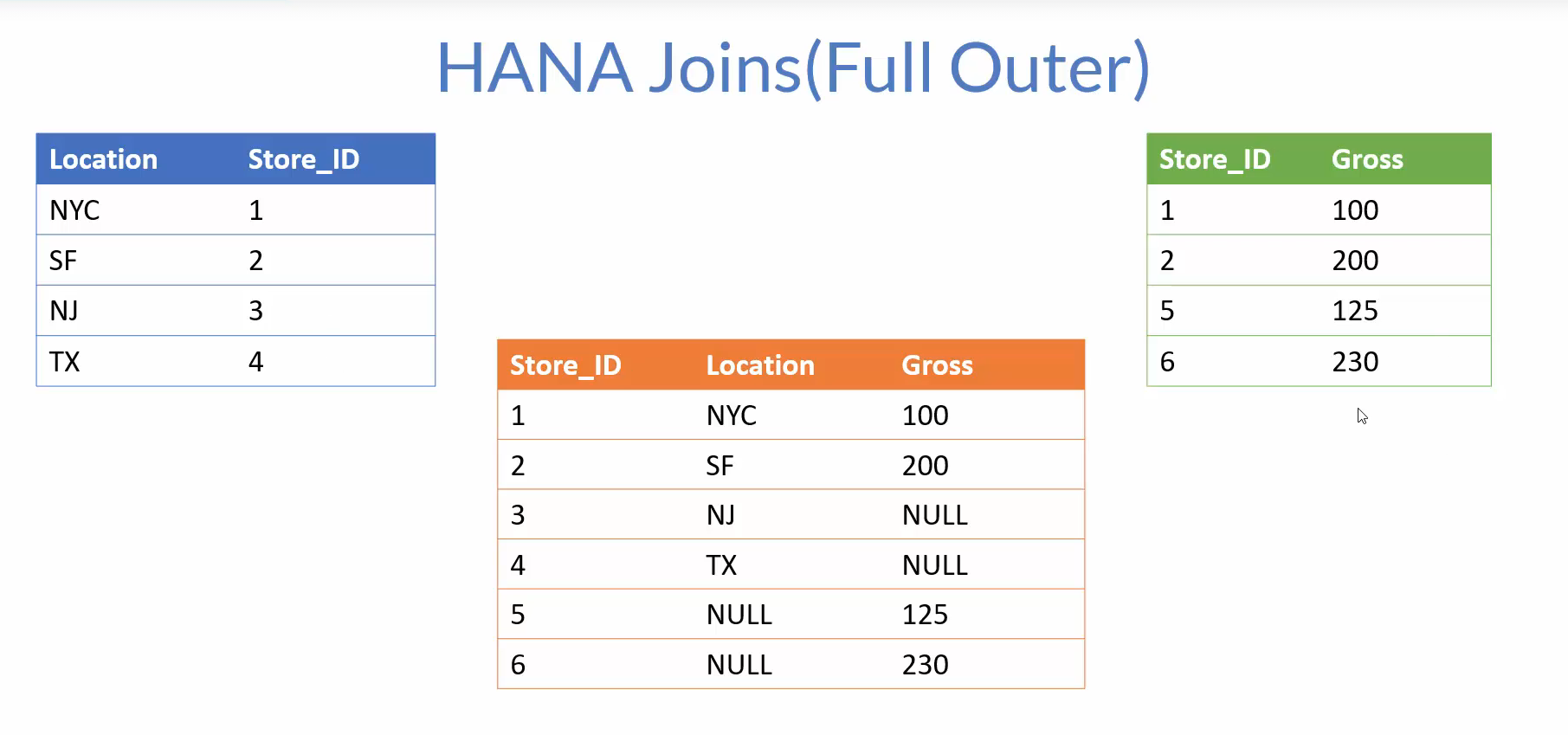
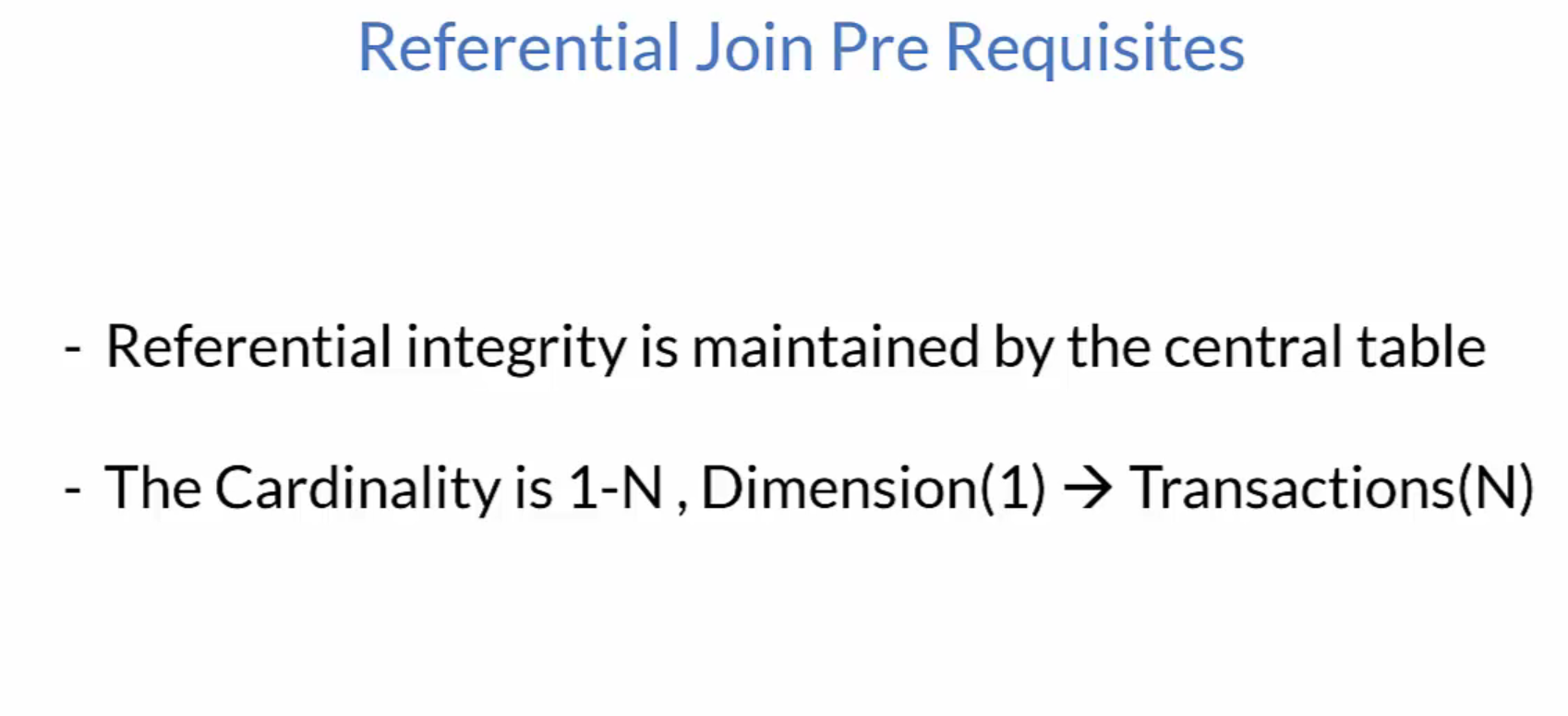


Figure 5 Full Outer Join Example.

Even we swap the position of tables we will still get the same result.

## Referential Join

They were introduced in the hana to improve the performance this are fundamental inner join with some special characteristics.

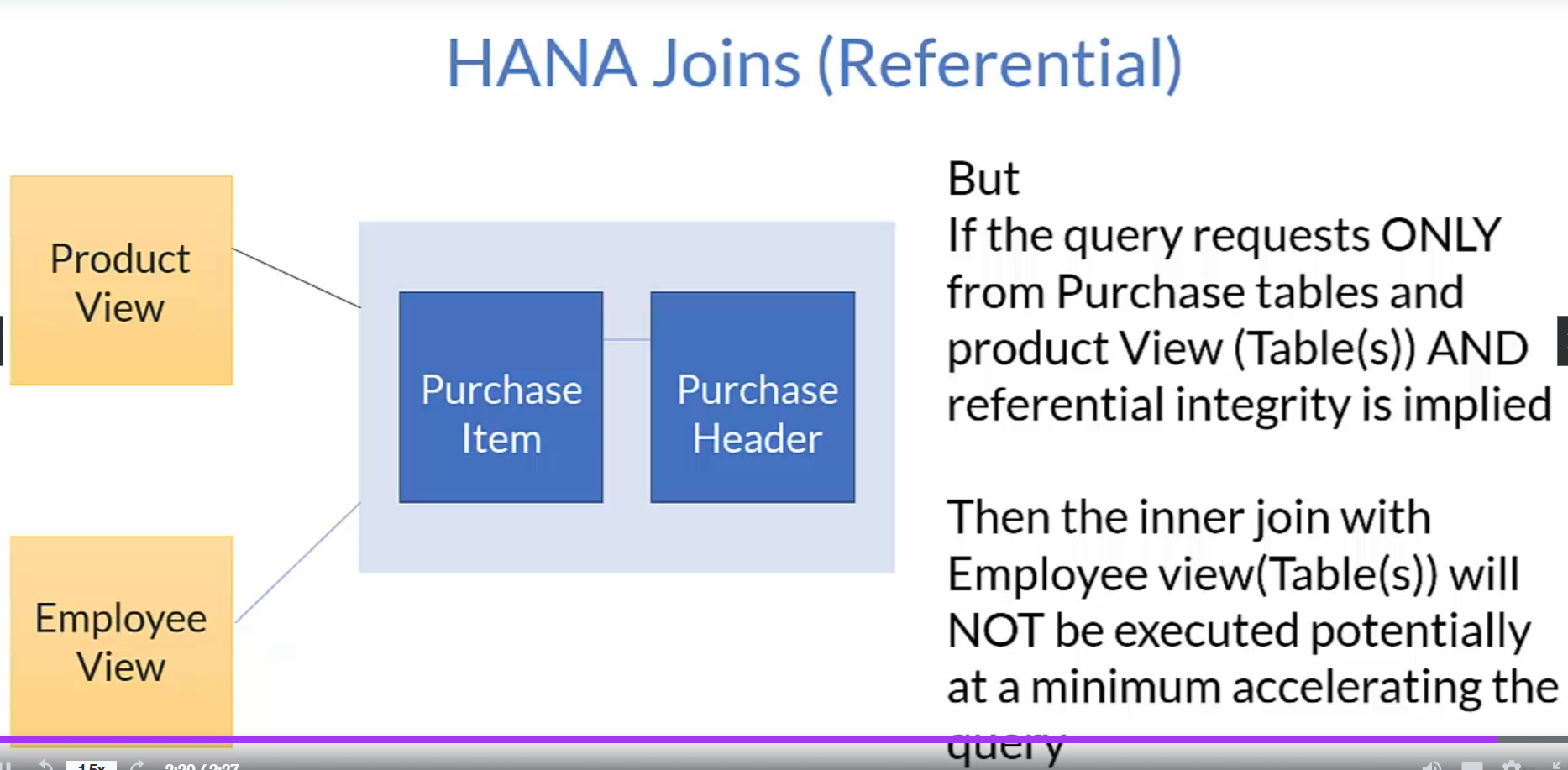


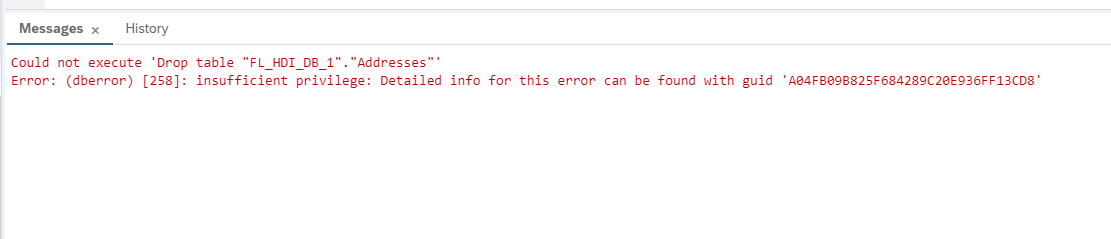
The central table is responsible for Referential Integrity



Figure 6 Scenario of referential Integrity.

If we request data from all three things that are Product view, Employee View, and Cube(Purchase Item, Purchase Header) it performs inner join between all three things but in case we are requesting data from Product view and Cube it will run inner Join between Product view and Cube only it will increase the performance of our query.





If this error is coming then you need to delete the hdbtable first from the BAS then it will automatically reflect here in the data explorer.

## Creation of Calculation View

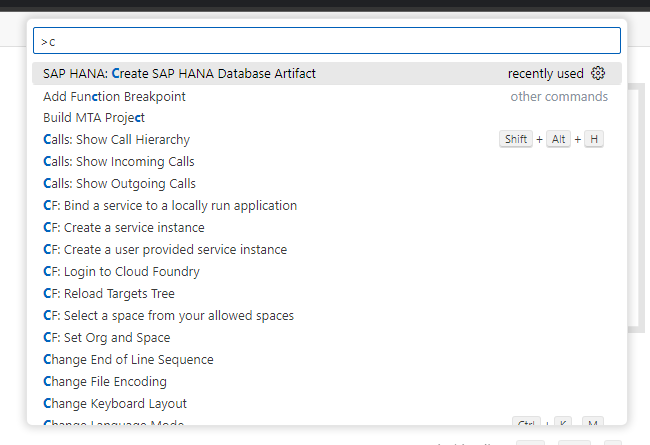


Figure 7 Navigating to Console.

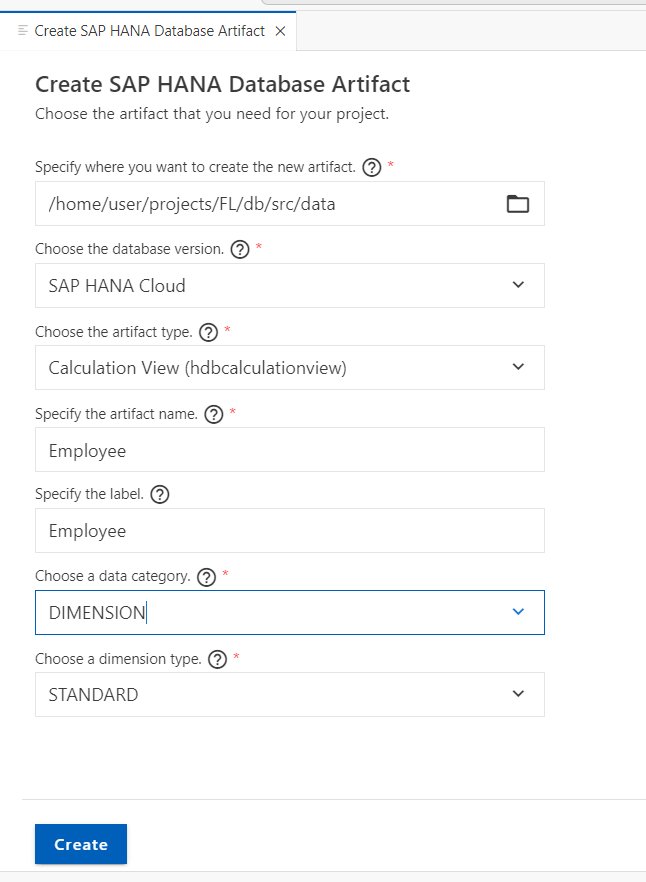


Figure 8 Selecting the Calculation View and Dimension.

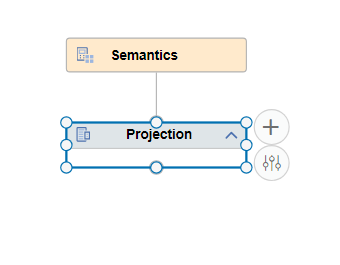


Figure 9 Click on Add-to-add Table to Calculation View.

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Figure 10 Adding it to View.

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Figure 11 Drag the marked are for mapping.

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Figure 12 You can just drag and drop it in output column.

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Figure 13 Selecting multiple by using Shift and select and then add to output.

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Figure 14 By double clicking you can add to output.

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Figure 15 For removing single output Column.

* If you click on Remove mapping it will remove entire from data source also.
* Remove All Mapping Will Remove all the fields from the output column as well as source.
* Removing the output column will only remove the fields from the output column.
* Removing all the output columns will remove all the fields from the output column.
* We can also select the output column by shift + click multiple fields and right click and Removing Output Column

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Figure 16 Assigning the Key.

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Figure 17 We can double click and change the name of output field.

We can select multiple fields by using shift + click in sequence.

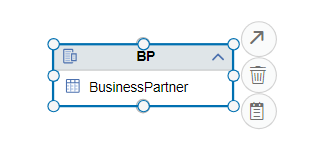


Figure 18 Click on the arrow and drag it to join.

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Figure 19 Dragging it to join.

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Figure 20 For creation of join drag the arrow and drop it to appropriate node.

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Figure 21 If you want to swap the two node you can use them give the cardinality assign the type of join.

### Creation of Calculated Column.

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Figure 22 Go to calculated column and click on add.

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Figure 23 Giving name to calculated column and using Expression Editor.

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Figure 24 After Adding the expression validate the Syntax.

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Figure 25 If syntax is right, you will get the prompt.

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Figure 26 Syntax to Concatenate.

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Figure 27 Hybrid Calculation View using Product table and Bpartner View.

### Filter

Restricting the view to contain only the records from EMEA Region

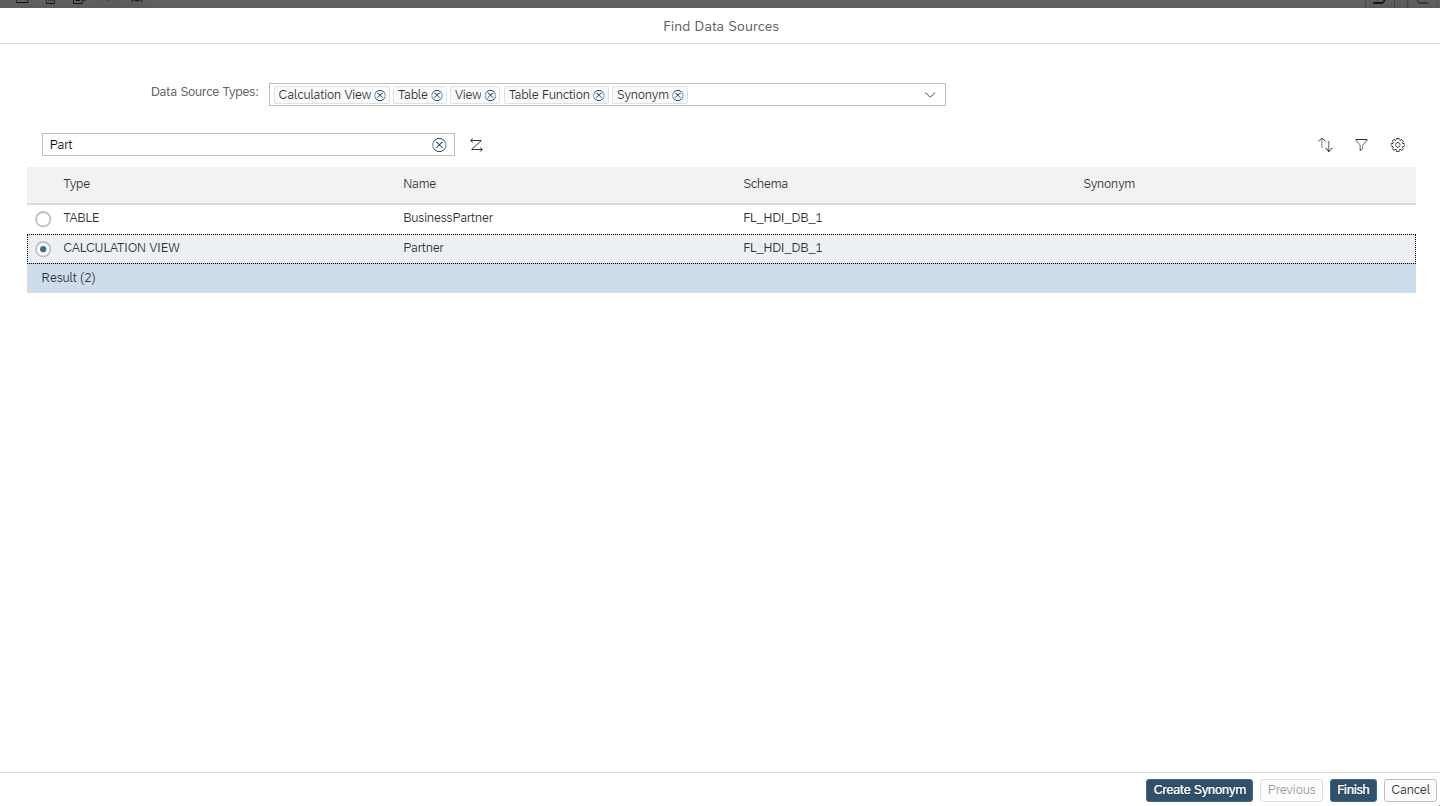


Figure 28 Using Existing View in Projection.

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Figure 29 Adding Filter Expression to restrict the data.

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Figure 30 Verify the No of entries in Data Preview and in Explorer.

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Figure 31 In both the cases the number of entries are same.

### Calculation View Cube with star join

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Figure 32 Creation of Purchase Cube.

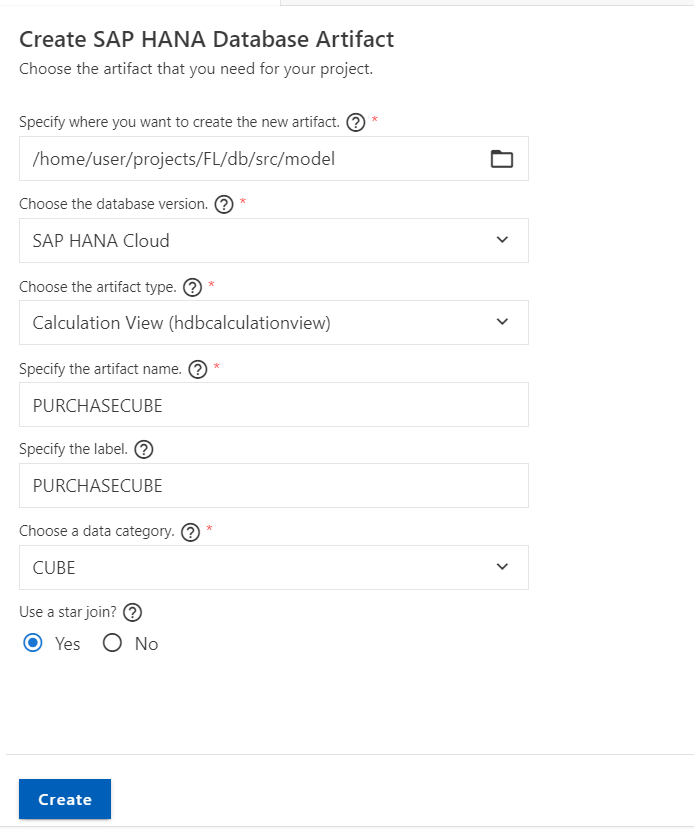


Figure 33 Creating a Calculation View with Star Join.

We will firt connect Po header and po item projections

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Figure 34 Header to item level data it should be inner join and 1-n cardinality as one value in header may have multiple entries in item.

Now we are going to add 2 dimension that we have created for Employee and partner

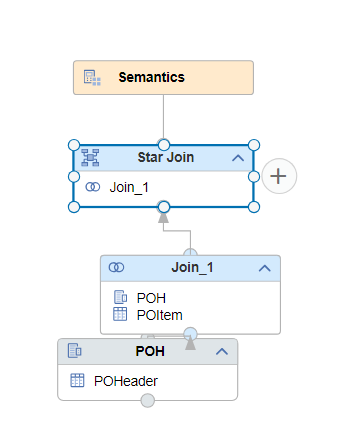


Figure 35 Click on plus symbol.

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Figure 36 Adding this to Star Join.

Now we will use referential join it will be n-1 Join 1 will be n and header will be 1 that means n towards the fact table.

As per observation in case of referential join we can give different cardinality between different tables.

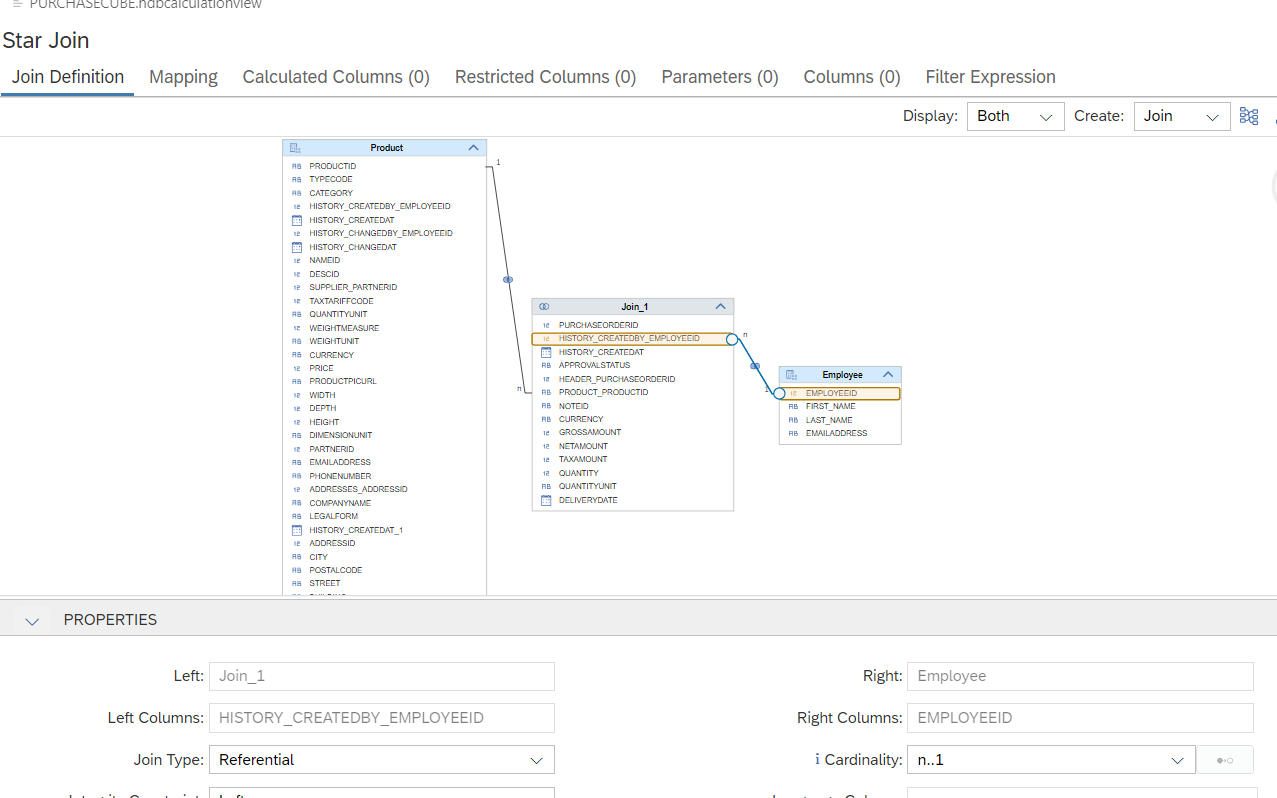


Figure 37 Creating Cardinality for star join between the tables.

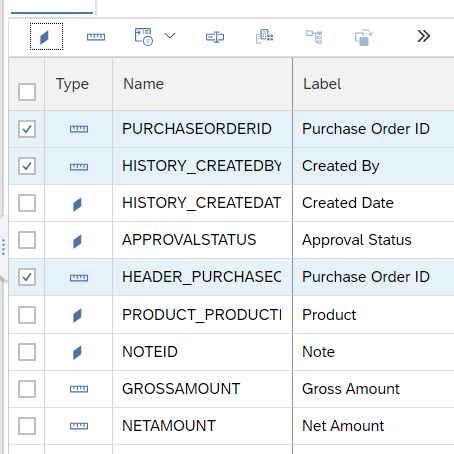


Figure 38 We can assign them as dimension also.

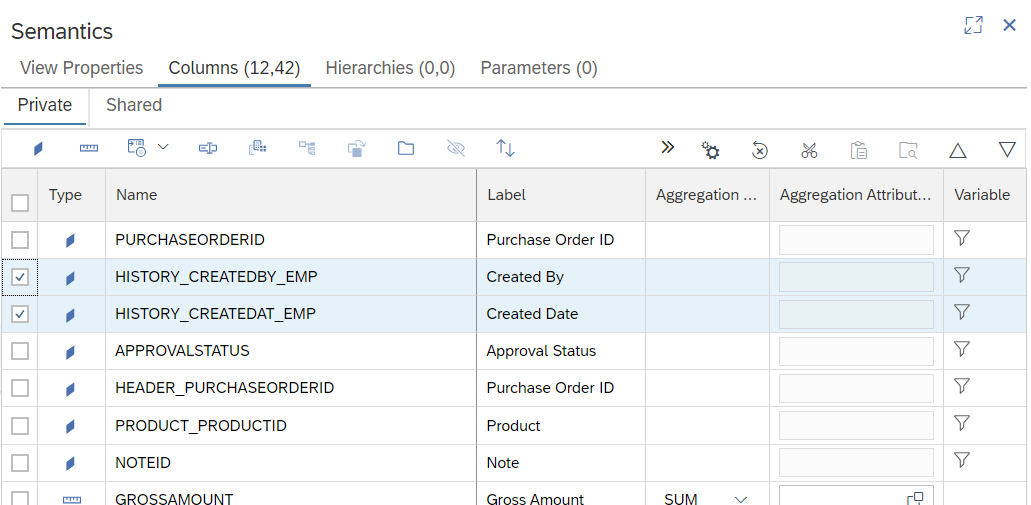


Figure 39 We can move the output column up and down as per our need.

Some of the column especially that are coming from dimensions go in the shared tab why?

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Figure 40 Always keep the measure in Value Axis 1 and Dimension in Label Axis 1.

### Show Linkage

It will drill down till the base table from where the element is actually coming from.

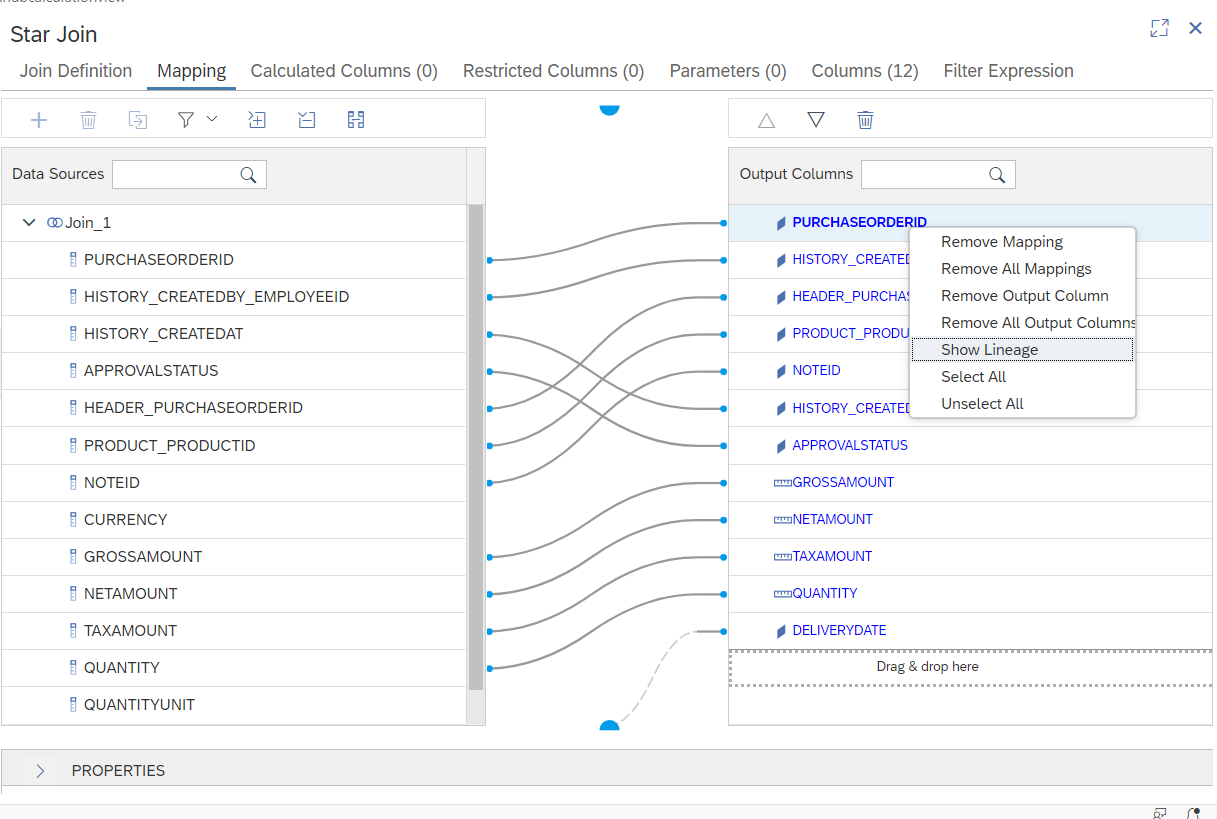


Figure 41 Linkage is always in Mapping it will drill down the base table.

A screenshot of a diagram

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Figure 42 It highlights in this manner.

### Semantics Layer

Semantics Layer is a very important node because here you get to decide what the reporting layer will actually be seeing from the view so this layer which can be made report friendly.

In other words, this layer can be used to present metadata and data in a fashion which the consumers of the report will want to see in