

SAP HANA internal training – Session 3

March 2018

Star Join – Calculation view

Details

Star joins in calculation views help to join a fact table with dimensional data. The fact table contains data that represent business facts such as price, discount values, number of units sold and so on. Dimension tables represent different ways to organize data, such as geography, time intervals, contact names and so on.

To create a calculation view based on star join, data category should be selected as 'CUBE' and star join check-box should be marked.

Calculation views as a data source in star join nodes behaves as shared dimensions. Modeler includes all attributes and hierarchies of the shared dimension to the output of the star join calculation view.

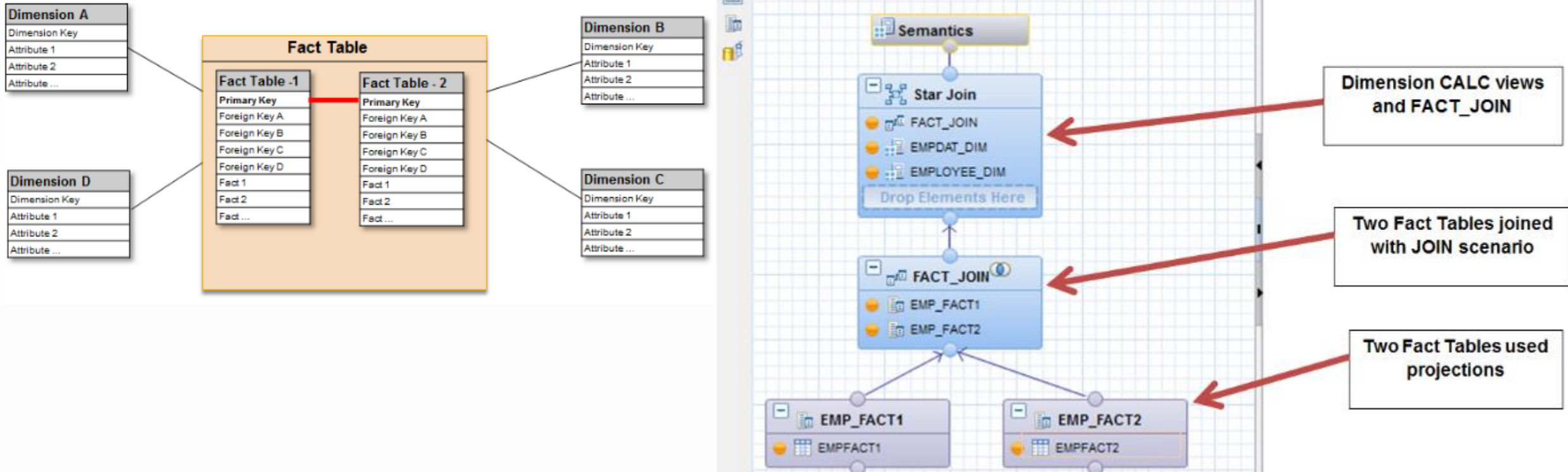
Restrictions –

It does not allow base column tables, Attribute Views or Analytic views to add at data foundation. All Dimension tables must be changed to Dimension Calculation views to use in Star Join. All Fact tables can be added and can use default nodes in Calculation View.

Star Join – Calculation view

Example

Below scenario is modelled in calculation view as star join(left).



Currency Conversion

Details

- Modeler performs currency conversions based on the source currency value, target currency value, exchange rate, and date of conversion. Similarly, it performs unit conversions based on the source unit and target unit.
- Input parameters could be used in currency conversion and unit conversion to provide the target currency value, the exchange rate, the date of conversion or the target unit value at runtime.

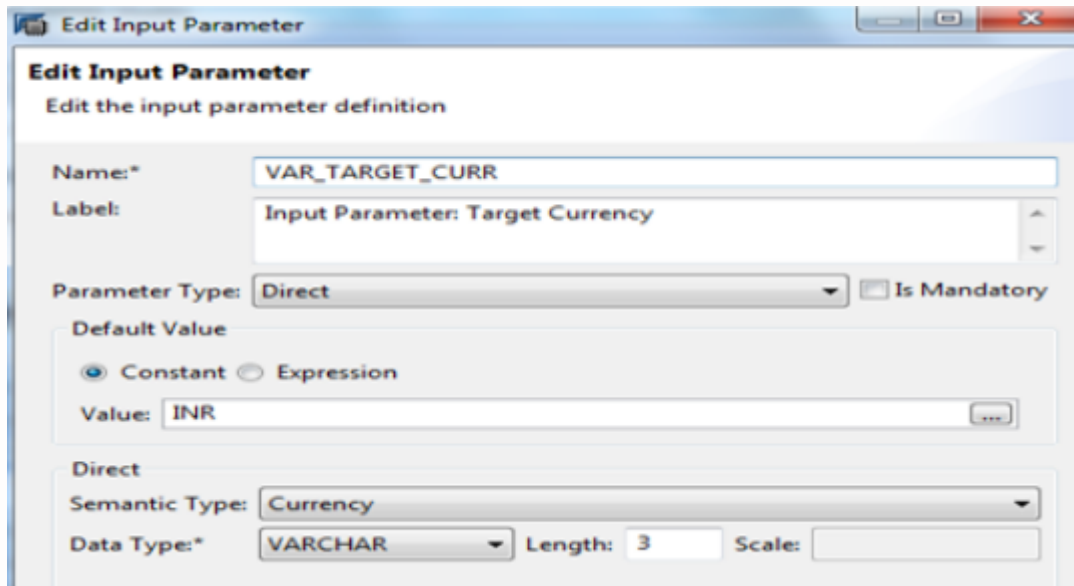
Pre-requisite – Following Currency Conversion related tables (TCUR*) should be present in schema with updated data.

Table Name	Description
TCURR	Exchange Rates
TCURV	Exchange rate types for currency translation
TCURF	Conversion Factors
TCURN	Quotations
TCURX	Currency Decimals

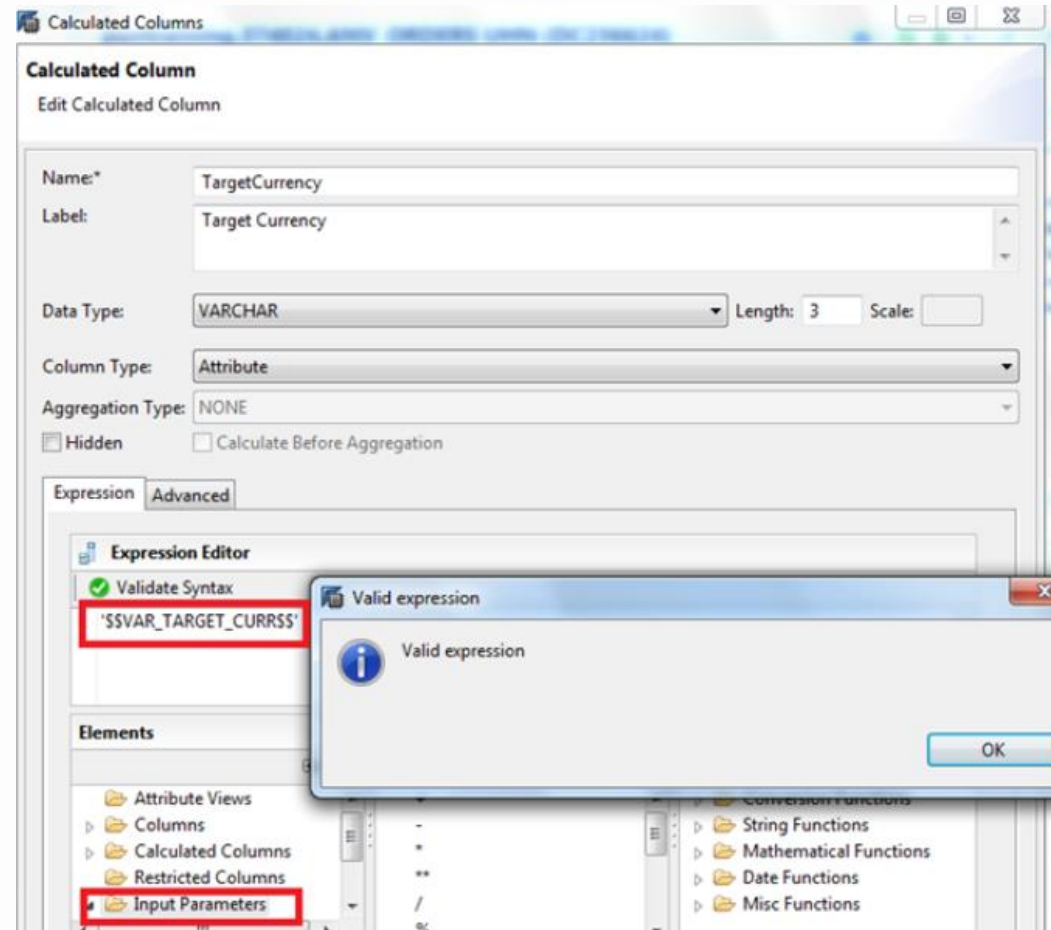
Currency Conversion

Example

To enable dynamic currency conversion, define an input parameter to receive the currency input from user. Also, a calculated column based on it to associate it with measure with amount values.



The 'Edit Input Parameter' dialog box is shown. It has a title bar 'Edit Input Parameter' and a subtitle 'Edit the input parameter definition'. The 'Name' field is 'VAR_TARGET_CURR'. The 'Label' field is 'Input Parameter: Target Currency'. The 'Parameter Type' is 'Direct'. The 'Is Mandatory' checkbox is checked. Under 'Default Value', the 'Constant' radio button is selected, and the 'Value' field is 'INR'. Under 'Direct', the 'Semantic Type' is 'Currency' and the 'Data Type' is 'VARCHAR' with 'Length' 3 and 'Scale' 0.



The 'Calculated Columns' dialog box is shown. It has a title bar 'Calculated Columns' and a subtitle 'Edit Calculated Column'. The 'Name' field is 'TargetCurrency'. The 'Label' field is 'Target Currency'. The 'Data Type' is 'VARCHAR' with 'Length' 3 and 'Scale' 0. The 'Column Type' is 'Attribute'. The 'Aggregation Type' is 'NONE'. The 'Hidden' checkbox is checked. The 'Calculate Before Aggregation' checkbox is unchecked. The 'Expression' tab is selected, and the 'Expression Editor' is open. The 'Expression Editor' shows the expression '\$\$VAR_TARGET_CURRSS' in the 'Valid expression' field. The 'Valid expression' dialog box is also open, showing the expression '\$\$VAR_TARGET_CURRSS' and an 'OK' button. The 'Elements' list on the left includes 'Attribute Views', 'Columns', 'Calculated Columns', 'Restricted Columns', and 'Input Parameters' (which is highlighted with a red box). The 'Functions' list on the right includes 'Conversion Functions', 'String Functions', 'Mathematical Functions', 'Date Functions', and 'Misc Functions'.

Currency Conversion

Example

Calculated column having currency conversion could be then defined.

- Here, 'Schema for currency conversion' should contain the currency conversion tables mentioned earlier.
- Source currency could be fixed or from a column.
- Just like target currency, Exchange rate type, and conversion date could also be fixed, from a column, or from input parameter.
- In case of error, error handling options are as below:

Value	Description
Fail	Modeler displays error for conversion failures at data preview.
Set to NULL	Modeler sets the values for corresponding records to NULL at data preview.
Ignore	Modeler displays unconverted value for the corresponding records at data preview.

Calculated Column

Create a new Calculated Column

Name*: Subtotal_TargetCurrency

Label: Subtotal Target Currency

Data Type: DECIMAL Length: 10 Scale: 2

Column Type: Measure

Aggregation Type: FORMULA

☐ Hidden ☐ Calculate Before Aggregation

Expression Advanced

Type: Amount with Currency

Currency: WAERK

☒ Enable for conversion ☐ Enable for decimal shifts ☐ With rounding

Conversion

Source Currency: WAERK

Target Currency: VAR_TARGET_CURR

Exchange Type: M

Conversion Date: ERDAT

Schema for currency conversion: SCHEMA_NAME

Client for currency conversion: 812

Upon Conversion Failure: Fail

OK Cancel

Unit Conversion

Details

- Modeler performs unit conversions based on the source unit and target unit.
- Input parameters could be used in unit conversion to provide the target unit value at runtime.

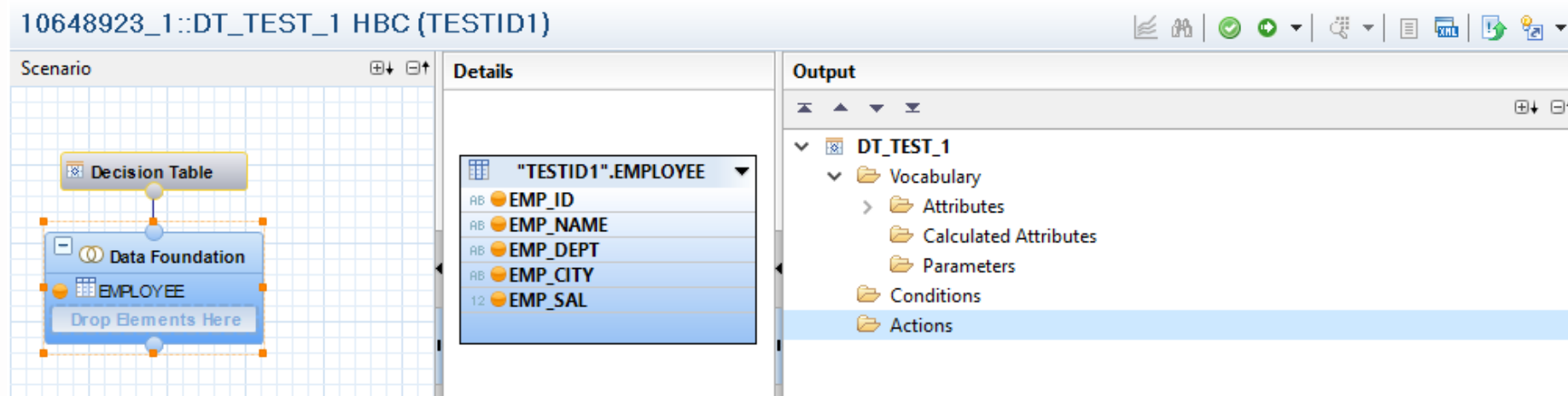
Pre-requisite – Following Unit Conversion related tables should be present in schema with updated data.

- T006
- T006D
- T006A

The screenshot shows a configuration window with two tabs: 'Expression' and 'Advanced'. The 'Advanced' tab is selected. The 'Type' dropdown is set to 'Quantity with Unit of Measure'. The 'Unit' field is set to 'FT'. There is an unchecked checkbox labeled 'Enable for conversion'. Below this is a 'Conversion' section with four fields: 'Source Unit' (empty), 'Target Unit' (empty), 'Schema for unit conversion' (set to 'UNITOFMEASURE'), and 'Client for unit conversion' (set to '100'). At the bottom, the 'Upon Conversion Failure' dropdown is set to 'Fail'.

Decision Tables

- Decision tables are used to manage business rules, data validation, and data quality rules.
- It consists of three panes: Scenario, Details, and Output.
- The **Scenario** pane of the editor consists of the Decision Table and Data Foundation nodes. Selecting any of these nodes shows the specific node information in the Details pane.
- The **Details** pane of the Data Foundation node displays the tables or information models used for defining the decision table. The Details pane of the Decision Table node displays the modeled rules in tabular format.
- The **Output** pane displays the vocabulary, conditions, and actions, and allows you to perform edit operations. Expand the vocabulary node to display the parameters, attributes, and calculated attributes sub-nodes. In the Output pane, you can also view properties of the selected objects within the editor.



Calculation View - Scripted: Concept

- Script-based calculation view is a viable alternative to depict complex business scenarios, which you cannot achieve by creating other information views.
- For example, if you want to create information views that require certain SQL functions (i.e. window), or predictive functions (i.e. R-Lang), then you use script-based calculation views.
- While creating the view, you write your SQL code in Script View Node and define the output structure in the Output Pane.

New Information View

Create an Information View

Select the required view type and enter the details

Name: SCRIPTED_CAL_VIEW

Label: SCRIPTED_CAL_VIEW

Package: 10606907

View Type: Calculation View

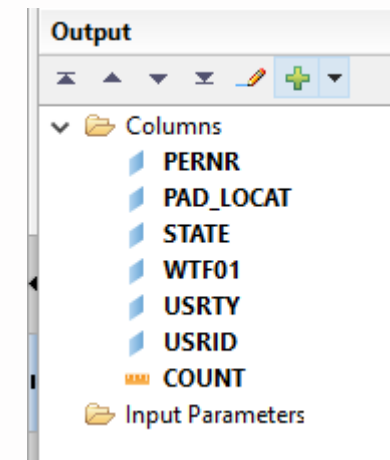
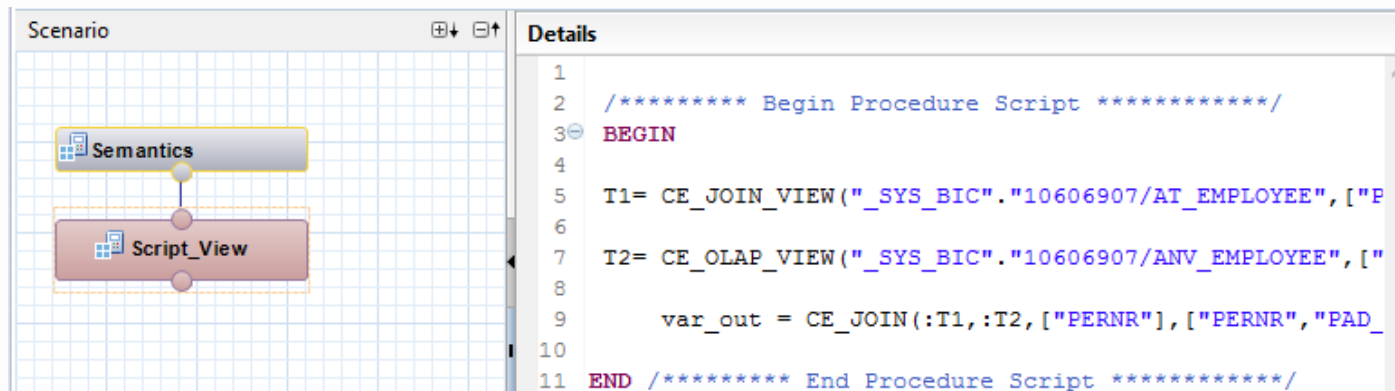
Subtype: Standard

Calculation View

Type: SQL Script

Parameter Case Sensitive: True

Finish Cancel



Appendices

How to – Step By Step



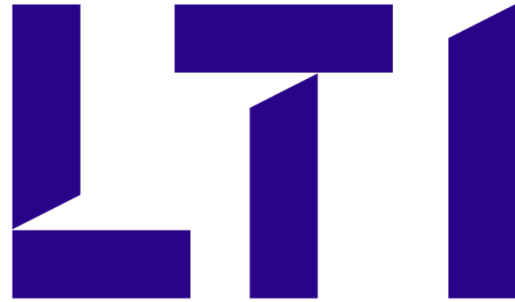
Microsoft Word
Document



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Let's Solve