



SAP HANA

Lesson Name: Calculation View- Scripted

Lesson Objectives

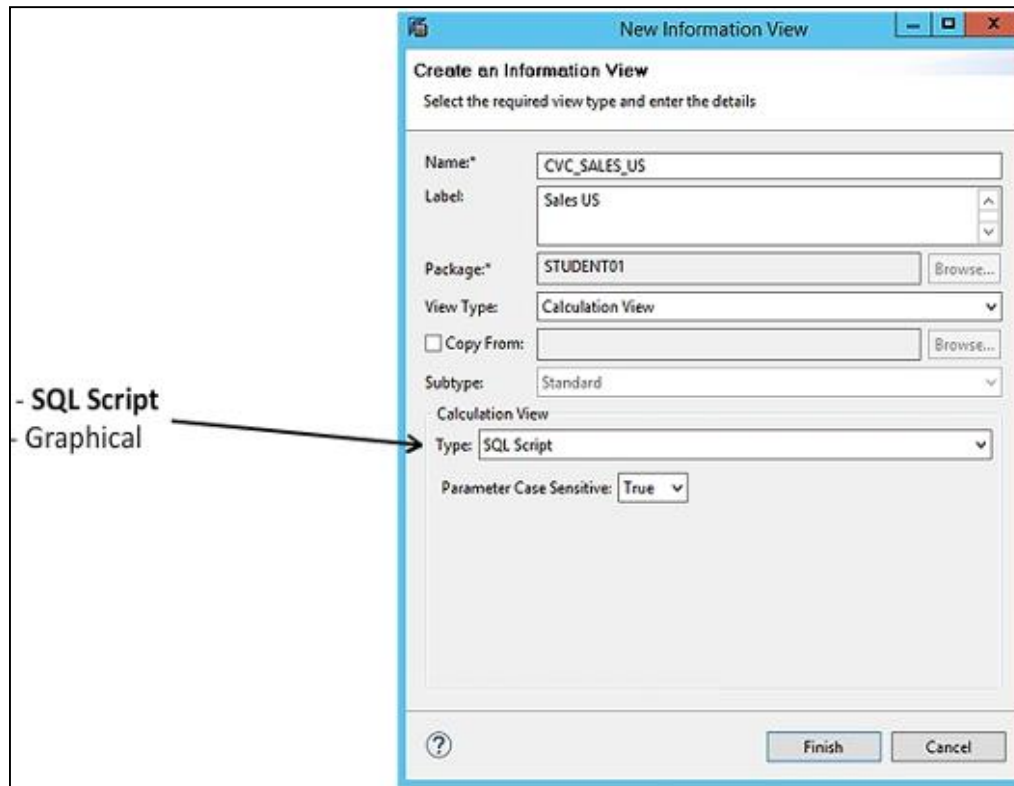
- After completing this lesson, participants will be able to -
- Create calculation view - scripted using HANA Modeler
 - Invoke calculation view using ADBC

Calculation View (Scripted)

- SQLScript is used to create scripted calculation view.
- SQLScript is an SAP HANA query language developed by SAP.
- It is based on standard SQL but includes many extra functions to allow the developer to include conditional flow control logic such as If, Then, Else and While.
- Calculation Views can be created by the following 2 techniques
 - Scripted Calculation View
 - Graphical Calculation view.
- Scripted View is useful when you need to apply a complex logic that is not supported by graphical information views.
- For example, when you want to use syntax such as conditions(IF...THEN...ELSE), loops (FOR or WHILE), and so on.

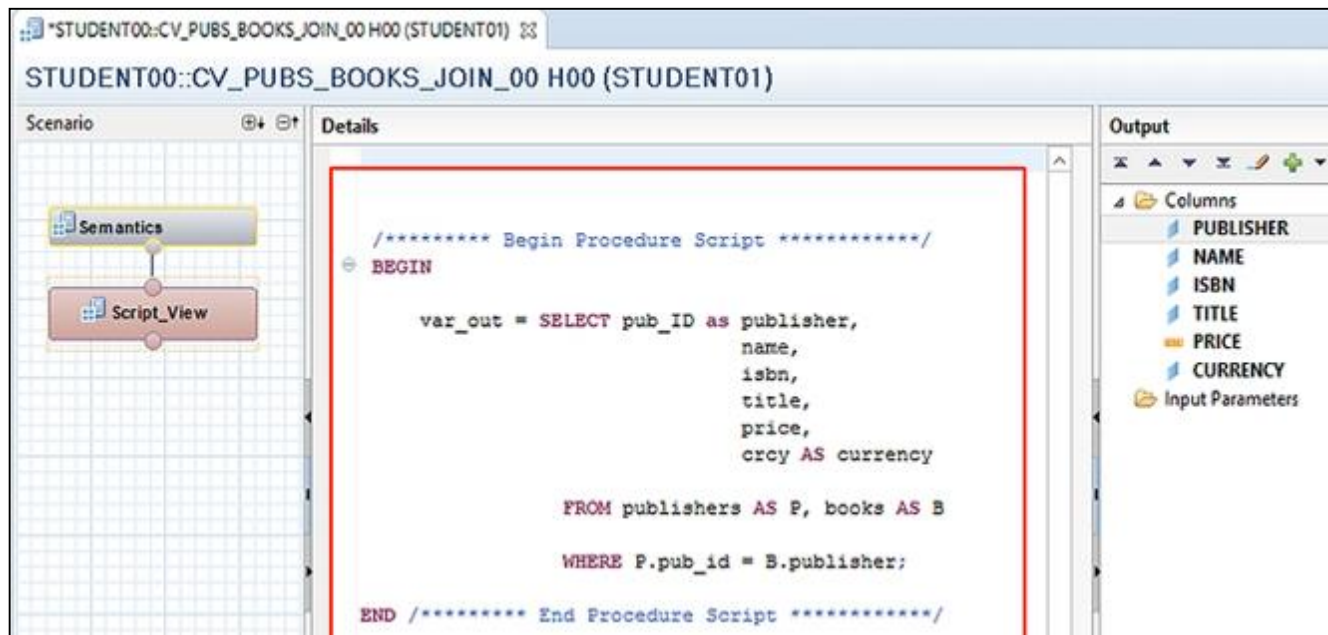
Creating Calculation View (Scripted)

- To get started, simply choose a calculation view but remember to select the **subtype as SQL Script** and not Graphical.



Writing the Script for Scripted Calculation View

- **Define the output columns:** After selecting SQL Script as shown in the last slide, you would then define the output columns.
- You can also have the system define the columns automatically by referring to an existing table or view.

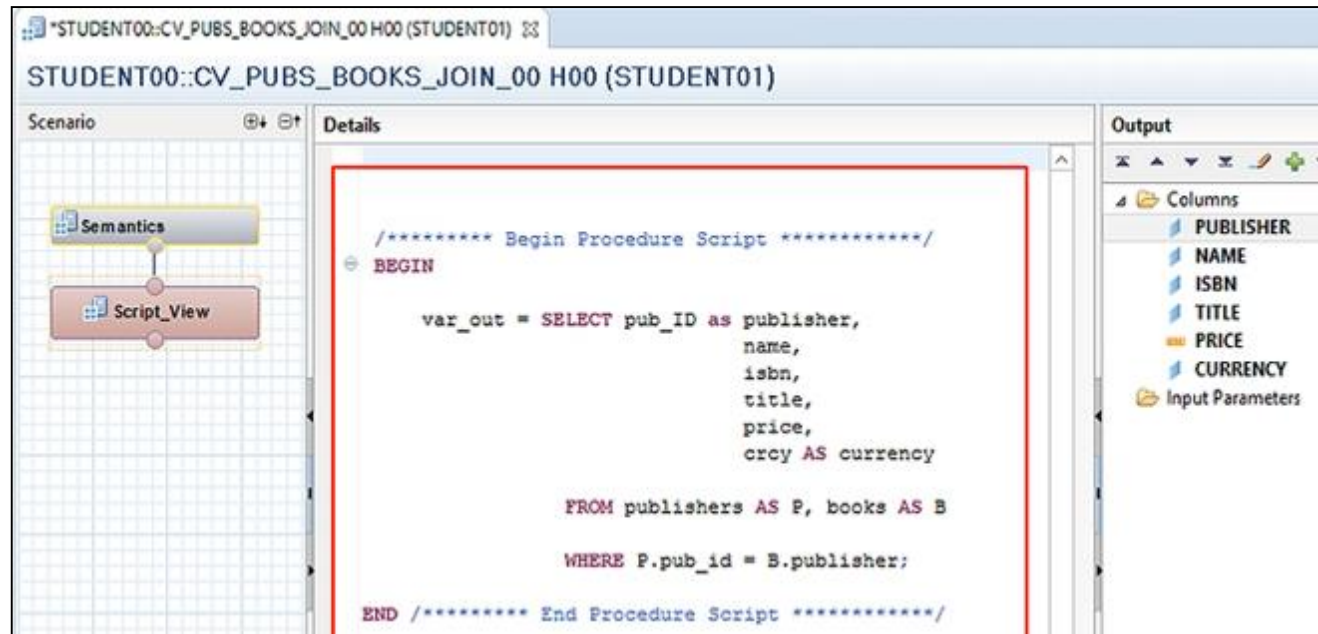


The screenshot displays the SAP configuration interface for a Scripted Calculation View. The main window is titled "STUDENT00::CV_PUBS_BOOKS_JOIN_00 H00 (STUDENT01)". On the left, the "Scenario" pane shows a flow from "Semantics" to "Script_View". The central "Details" pane contains an SQL script enclosed in a red border, which is a PL/SQL procedure script. The script defines a variable "var_out" as a SELECT statement that joins the "publishers" and "books" tables. The "Output" pane on the right lists the columns for the view: "PUBLISHER", "NAME", "ISBN", "TITLE", "PRICE", and "CURRENCY".

```
/****** Begin Procedure Script *****/  
BEGIN  
  
    var_out = SELECT pub_ID as publisher,  
                    name,  
                    isbn,  
                    title,  
                    price,  
                    crcy AS currency  
  
    FROM publishers AS P, books AS B  
  
    WHERE P.pub_id = B.publisher;  
  
END /***** End Procedure Script *****/
```

Writing the Script for Scripted Calculation View

- **Write the script** :To write the script you must select the Script View node in the scenario pane.
- The script editor now appears in the centre of the screen.
- Here you describe what you would like to happen using the language SQLScript.



Demo

Creation of Scripted Calculation View.



Querying Calculation Views in SAP HANA Studio

When building an Information View, SAP HANA Studio provides two ways to query the data of the view. It is important to understand between these approaches.

- i. Standard Data Preview
 - With the Standard Data Preview, **you select all the columns that** are included in the Semantics of the information view (provided that they are not hidden).
 - You can move the columns (drag and drop), and also order the result set by one (and only one) column.
- ii. Custom SQL Query
 - An alternative to the Standard Data Preview is to execute a Custom SQL Query. As shown in the figure in the next slide, after generating the SQL Statement equivalent to the data preview, **you can modify it**, and for example change the selected columns or the group by clause, order the result set by several columns.

Querying Calculation Views in SAP HANA Studio

Standard Data Preview in SAP HANA Studio

Filter pattern 190 rows retrieved - 46 ms Execute Add filter Sort entire data set

COUNTRY	BP_COMPANY_NAME	PRODUCT_ID	GROSS_AM...	RANK
AR	Entertainment Argentina	HT-1037	12,838,222.24	1
AR	Entertainment Argentina	HT-1000	17,825.6	5
AR	Developement Para O Gover...	HT-1138	9,784.88	4
AR	Developement Para O Gover...	HT-1137	623,048.24	1
AR	Developement Para O Gover...	HT-1072	4,906.24	5
AR	Developement Para O Gover...	HT-1070	101,094.88	2
AR	Developement Para O Gover...	HT-1062	10,456.48	3
AR	Developement Para O Gover...	HT-1118	18,774.16	4
AR	Developement Para O Gover...	HT-1107	28,422.48	3
AR	Developement Para O Gover...	HT-1106	1,220,977.84	2
AR	Developement Para O Gover...	HT-1037	12,838,222.24	1
AR	Developement Para O Gover...	HT-1000	17,825.6	5
AR	Developement Para O Gover...	HT-1138	9,784.88	4
AR	Developement Para O Gover...	HT-1137	623,048.24	1

Custom SQL Query

Content
mp
public
sap
STUDENT00
ha300
MIGRAED
Calculation Vi
CVCS_PO2
CVCS_PO
CVC_ORDI
CVC_ORDI
CVC_SO_Rank...

1 Generate Select SQL
Copy Column View Name
Where-Used
History
Delete and Activate
Auto Documentation
Copy Ctrl+C
Refactor

2 Modify Query

```
SELECT
"COUNTRY",
"PRODUCT_ID",
sum("GROSS_AMOUNT") AS "GROSS_AMOUNT",
max("RANK") AS "RANK"
FROM "SYS_BIC"."STUDENT00.ha300/CVC_SO_RANK_00"
GROUP BY "COUNTRY",
"PRODUCT_ID"
ORDER BY 1, 4
```

3 Execute

Custom Result

	COUNTRY	PRODUCT_ID	GROSS_AMOUNT	RANK
1	AR	HT-1037	25,676,444.48	1
2	AR	HT-1106	2,441,955.68	2
3	AR	HT-1137	1,869,144.72	3
4	AR	HT-1070	303,284.64	4
5	AR	HT-1107	56,844.96	5
6	AT	HT-1037	25,676,444.48	1
7	AT	HT-1021	4,013,066.8	2
8	AT	HT-1022	97,435.28	3
9	AT			32
10	AT	HT-1062	24,221.84	5
11	BR	HT-1502	621,538.56	1

4 Check Results

Demo

Creation of Calculation view in SAP HANA Studio and query it.

Also modify the query and execute to illustrate other options too.

Invoke the calculation script using ADBC



Summary

In this lesson, you have learnt:

- How to create a scripted calculation view scripts using HANA Modeler
- How to use ADBC to invoke the scripted calculation view

Review Question



Thank you