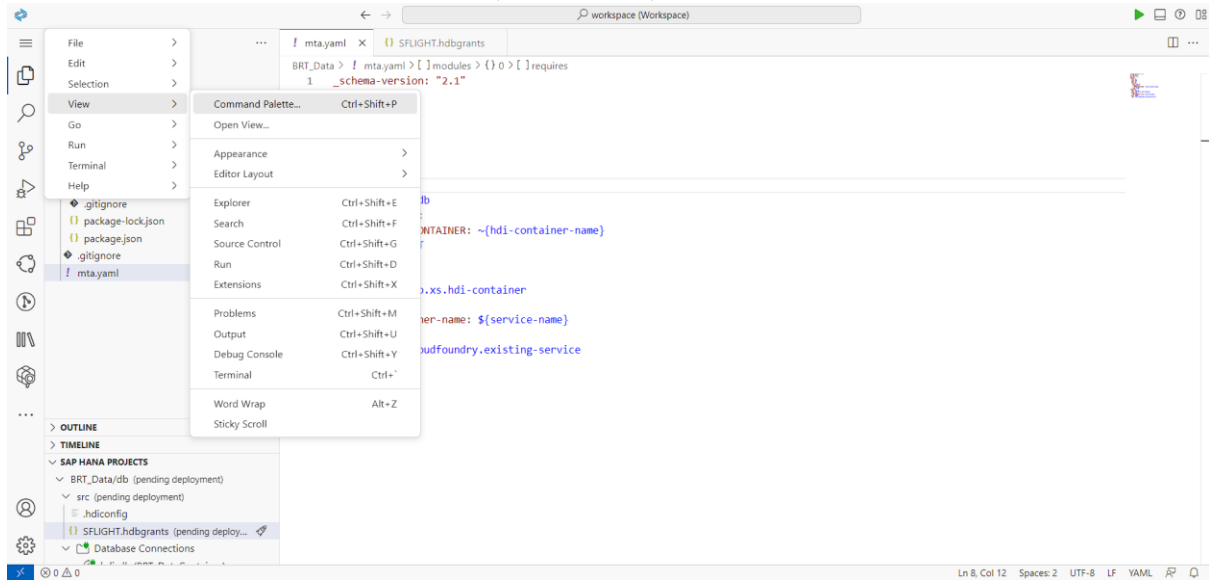


Ujian Tengah Semester

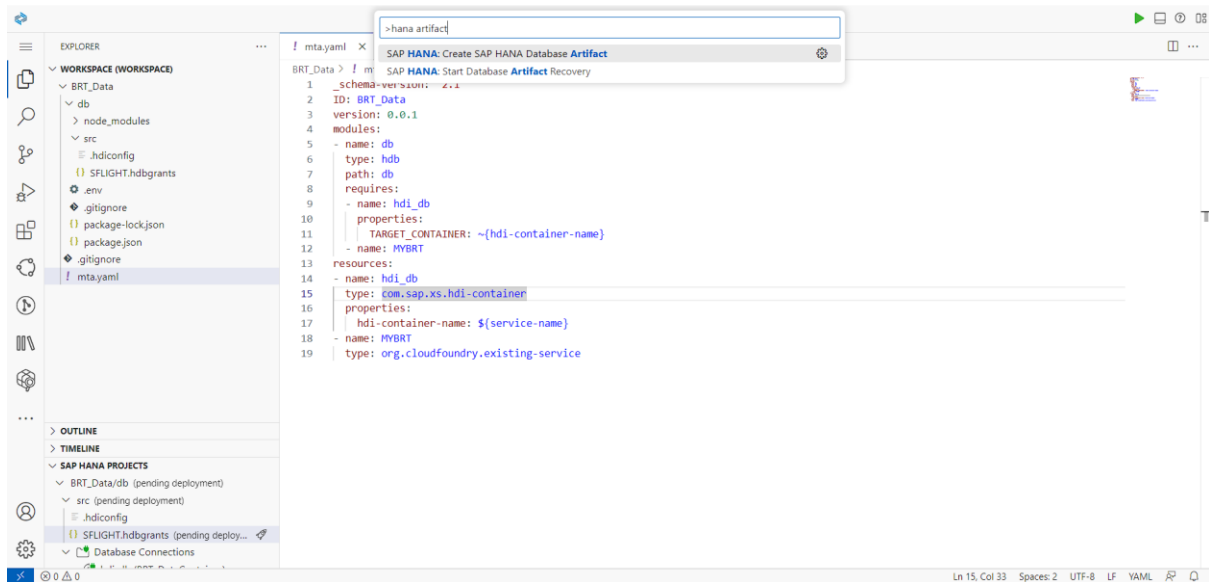
Nama : Mikhael Aditha Sembiring Meliala
NIM : 201402079
Mata Kuliah : Enterprise Development Software

Module 7: Create a Calculation View

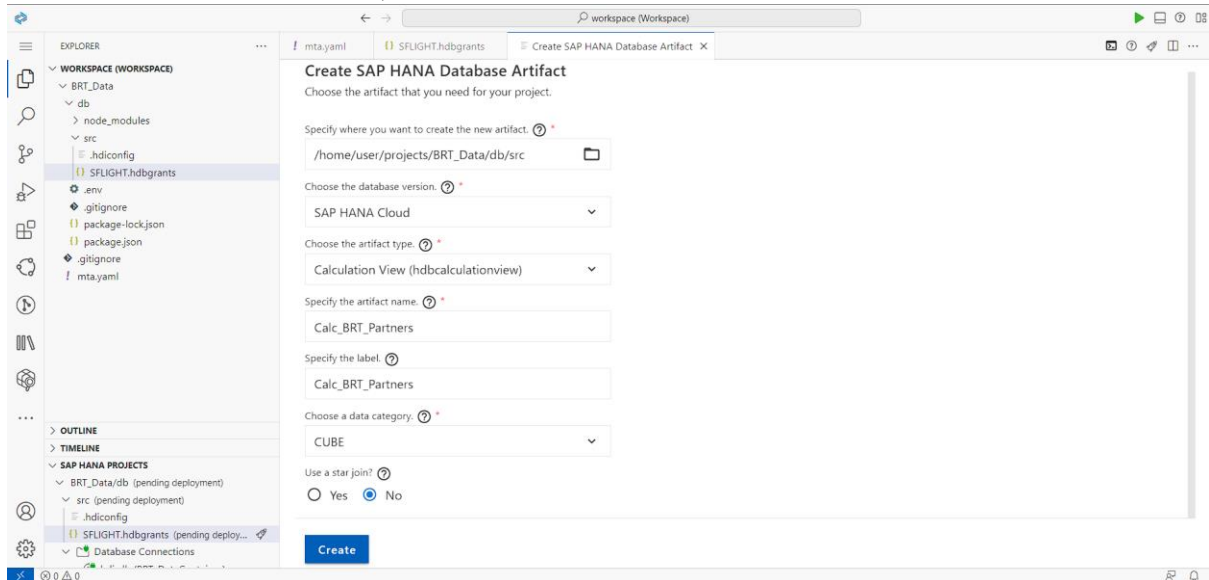
1. File > View > Command Palette (Ctrl+Shift+P)



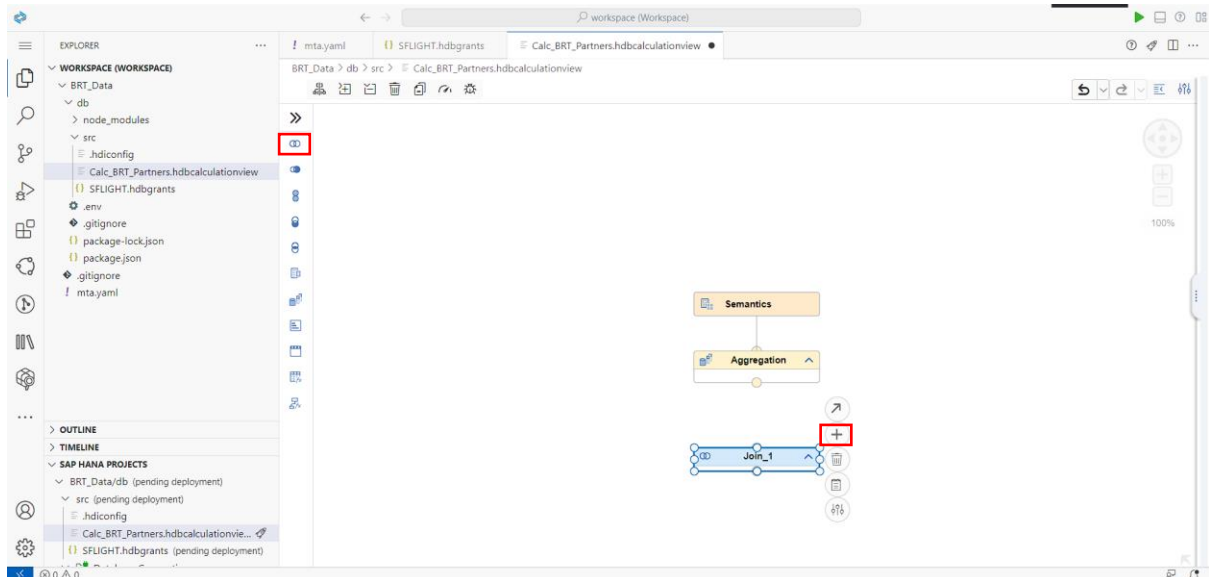
2. Search “SAP HANA: Create SAP HANA Database Artifact”



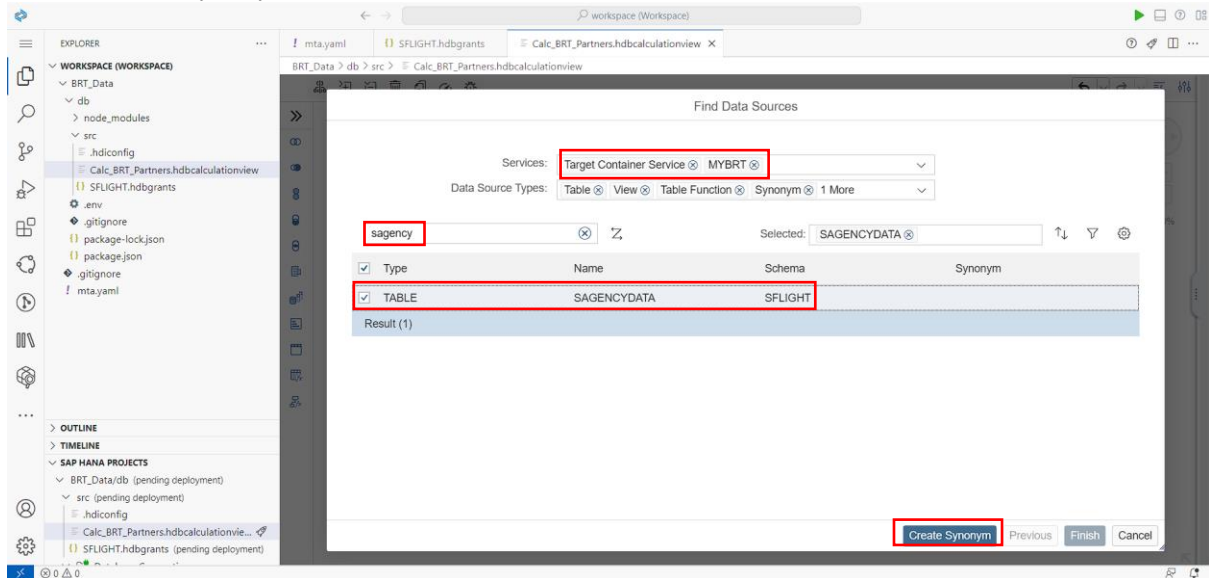
3. Fill needed information, then click “create”



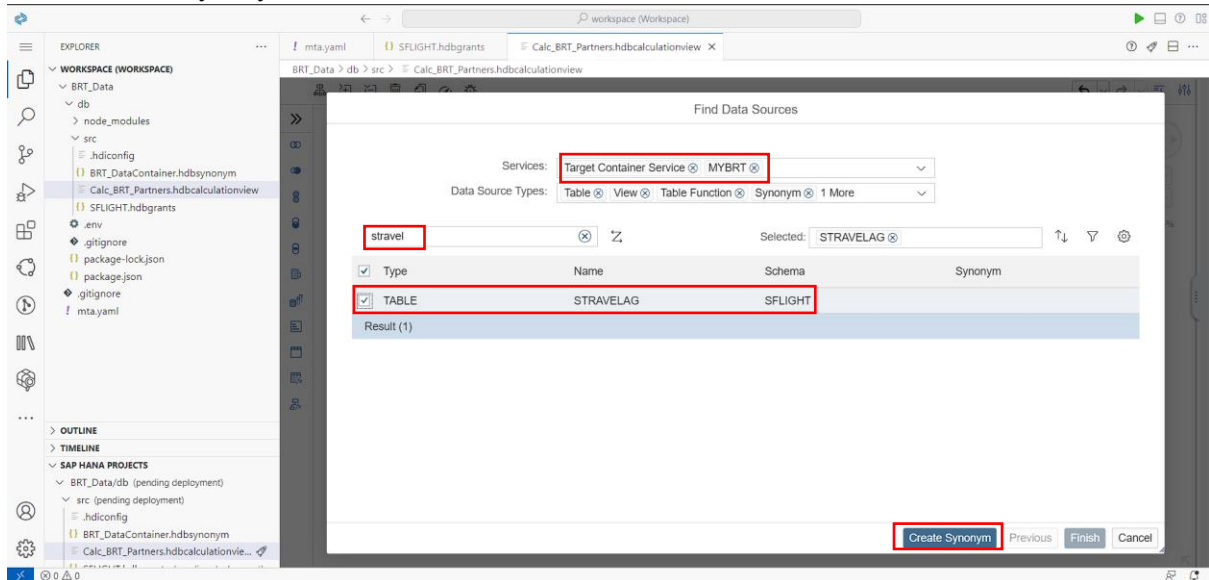
4. Create “Join” module, then click the “+” icon



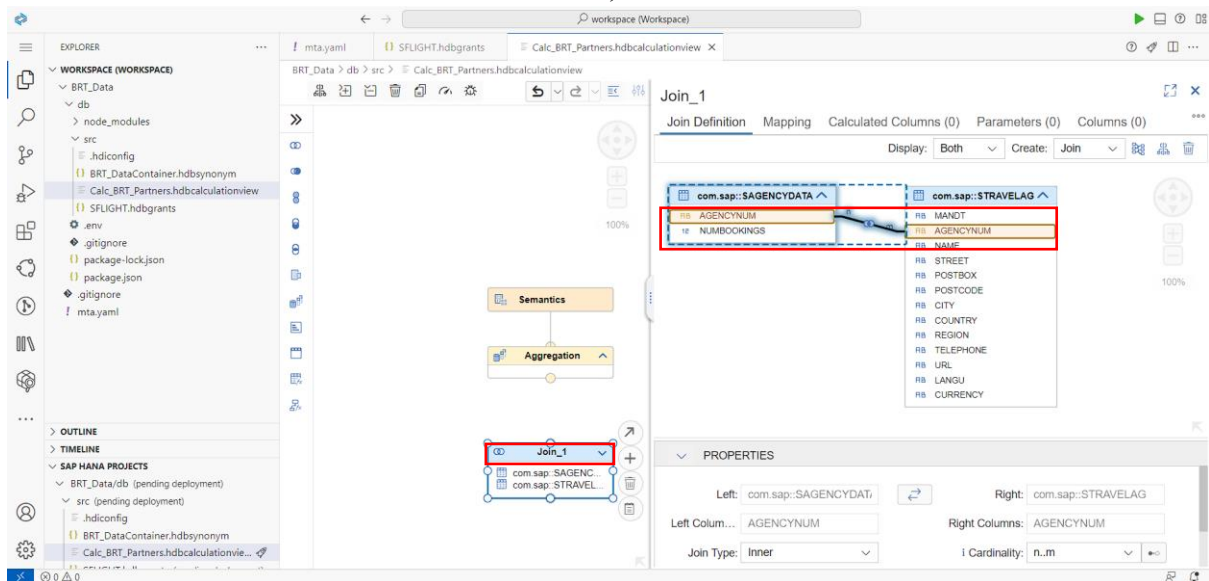
5. Create synonym for SAGENCYDATA and then click “Finish”



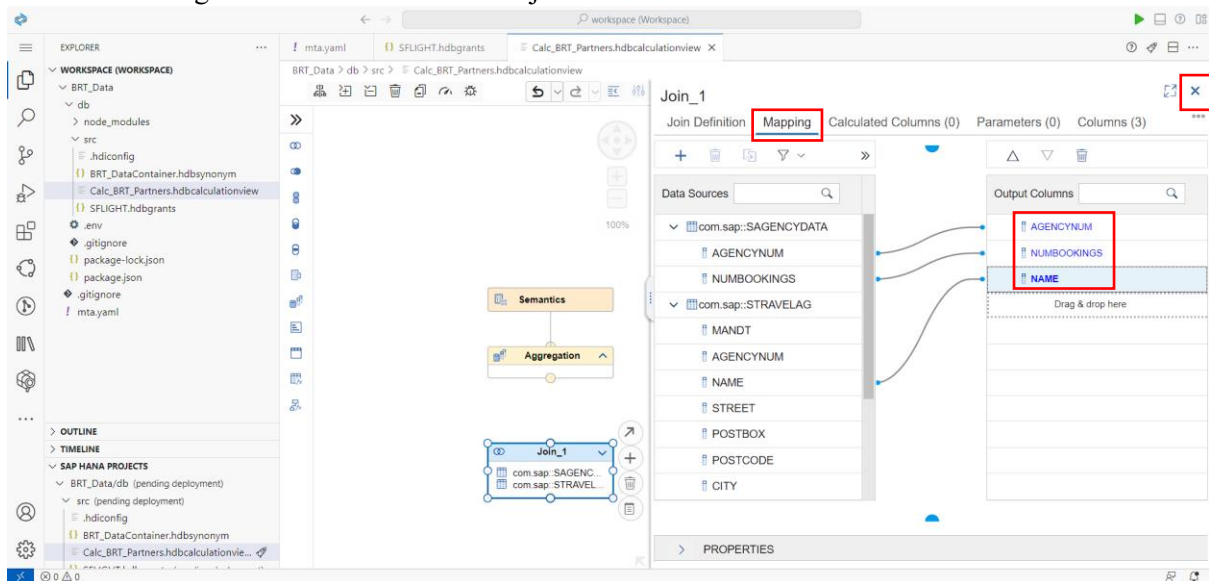
6. Create synonym for STRAVELAG and then click “Finish”



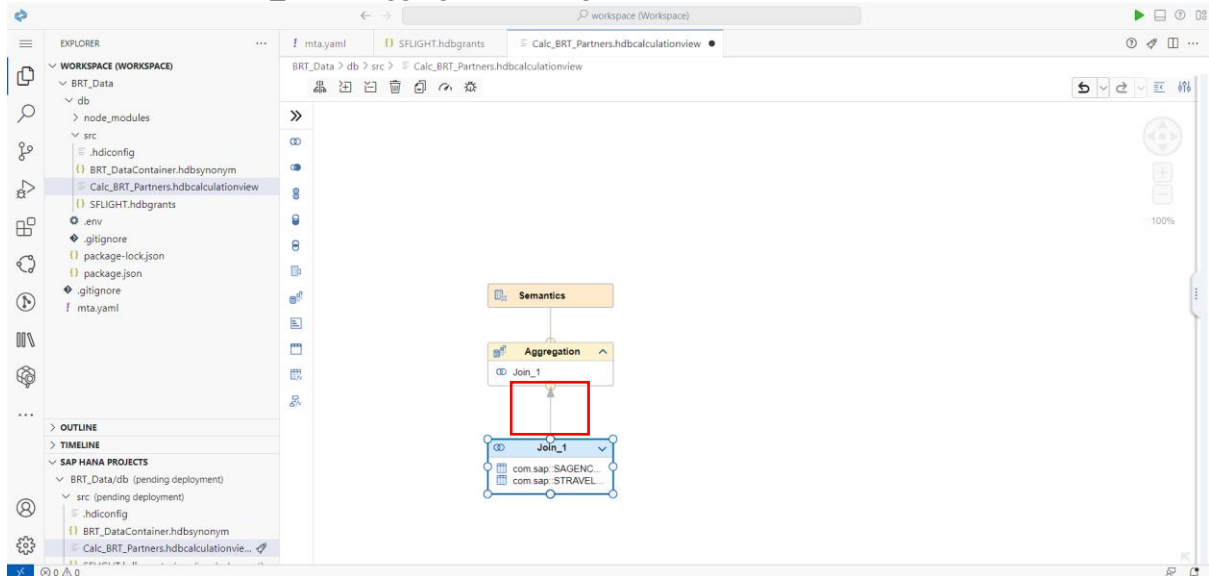
7. Double click on “Join_1”, click and hold “AGENCYNUM” of “SAGENCYDATA”, drag it into “AGENCYNUM” of “STRAVELAG”, and release it



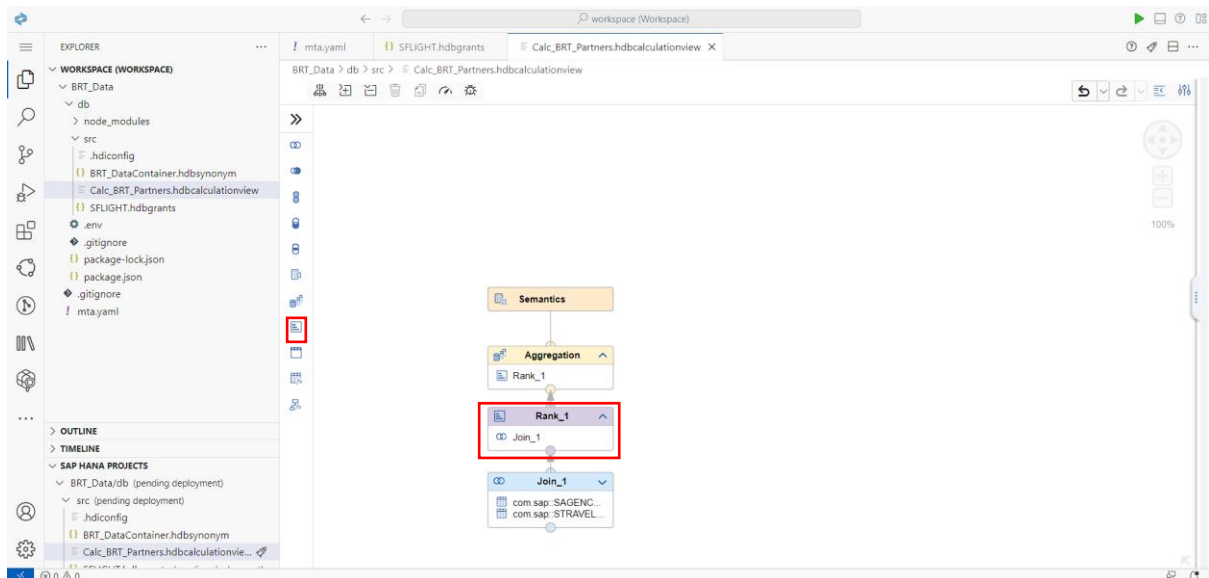
8. Click on “Mapping”, select and drag “AGENCYNUM”, “NUMBOOKINGS”, and “NAME” to the right side. After that close the join window



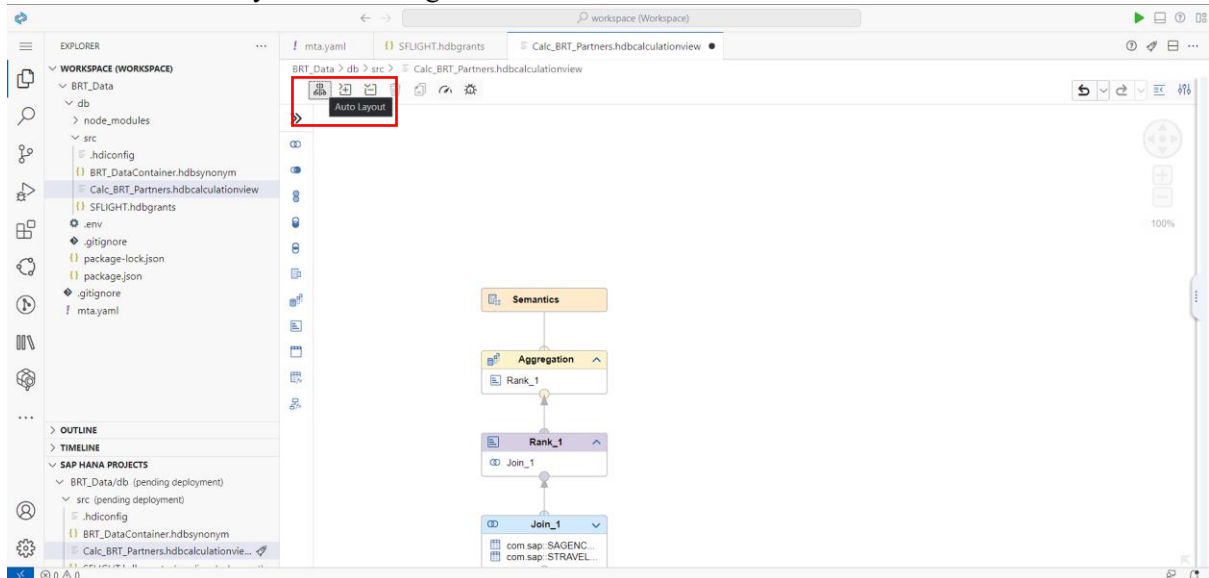
9. Connect “Join_1” to “Aggregation” using the arrow icon



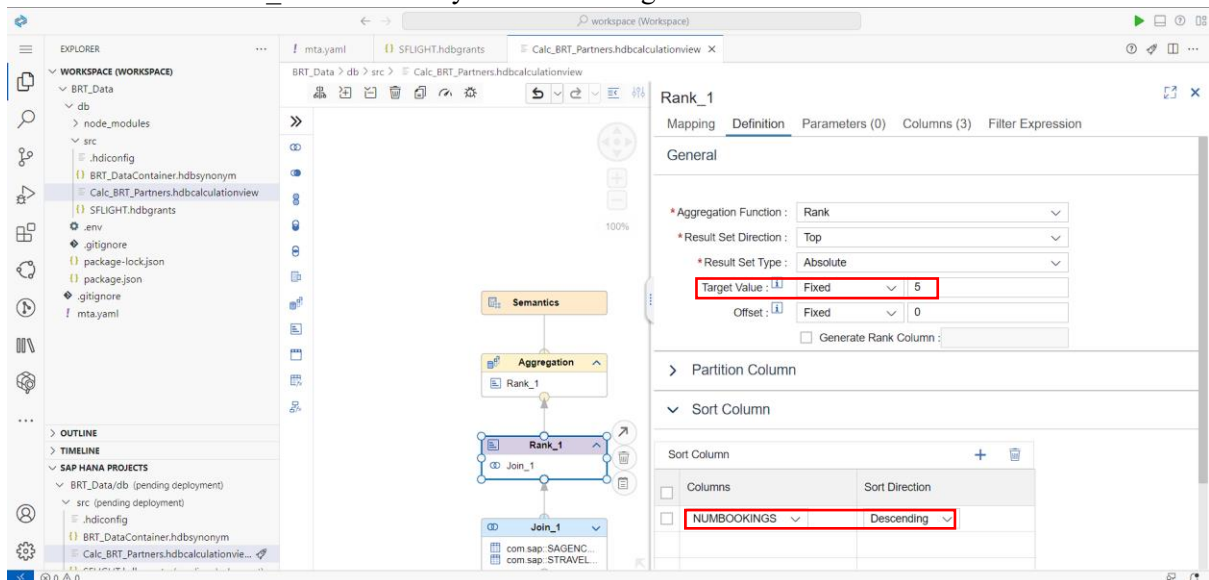
10. Add rank node between the two nodes



11. Click auto layout to rearrange the canvas



12. Set the “Rank_1” definition by double clicking it



13. Set the mapping of “Aggregation” by double clicking it

The screenshot shows the SAP HANA Studio interface. On the left, the 'EXPLORER' pane shows the project structure. The 'BRT_Data' folder is expanded, showing the 'src' folder and the 'Calc_BRT_Partners.hdbcalculationview' file. The 'Rank_1' table is selected. The 'Aggregation' dialog box is open, showing the 'Mapping' tab. The 'Data Sources' list on the left contains 'Rank_1' with columns 'AGENCYNUM', 'NUMBOOKINGS', and 'NAME'. The 'Output Columns' list on the right contains 'AGENCYNUM', 'NUMBOOKINGS', and 'NAME'. Arrows indicate the mapping from the data source columns to the output columns. The 'Rank_1' table is highlighted in the 'Data Sources' list.

14. Deploy the project

The screenshot shows the SAP HANA Studio interface. On the left, the 'EXPLORER' pane shows the project structure. The 'BRT_Data' folder is expanded, showing the 'db' folder and the 'Calc_BRT_Partners.hdbcalculationview' file. The 'BRT_Data/db' folder is selected. The 'Deploy' button is highlighted. The 'Terminal' pane shows the deployment logs, indicating that the project has been successfully deployed.

```
Postprocessing deployed files...
Postprocessing "src/BRT_DataContainer.hdbsynonym"...
Postprocessing "src/BRT_DataContainer.hdbsynonym"... ok (0s 0ms)
Postprocessing deployed files... ok (0s 14ms)
Finalizing...
Finalizing... ok (0s 25ms)
Make succeeded (0 warnings): 1 files deployed (effective 1), 0 files undeployed (effective 0), 0 dependent files redeployed
Making... ok (1s 388ms)
Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"...
Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"... ok (0s 0ms)
Starting make in the container "BRT_DATA_HDI_DB_1" with 1 files to deploy, 0 files to undeploy... ok (1s 452ms)
Deploying to the container "BRT_DATA_HDI_DB_1"... ok (1s 645ms)
No default-access-role handling needed; global role "BRT_DATA_HDI_1::access_role" will not be adapted
Unlocking the container "BRT_DATA_HDI_DB_1"...
Unlocking the container "BRT_DATA_HDI_DB_1"... ok (0s 0ms)
Deployment to container BRT_DATA_HDI_DB_1 done [Deployment ID: none].
Deployment ended at 2023-10-16 16:24:31
(4s 191ms)
Terminal will be reused by tasks, press any key to close it.
```


15. Open the HDI Container

The screenshot shows the SAP HANA Studio interface. The top pane displays the Explorer view with the project structure. The bottom pane shows the Terminal view with the deployment logs. The SAP HANA Database Explorer is open, showing the 'Calc_BRT_Partners' column view.

Terminal Output:

```
Postprocessing deployed files...
Postprocessing "src/BRT_DataContainer.hdbsynonym"...
Postprocessing "src/BRT_DataContainer.hdbsynonym"... ok (0s 0ms)
Postprocessing deployed files... ok (0s 14ms)
Finalizing...
Finalizing... ok (0s 25ms)
Make succeeded (0 warnings): 1 files deployed (effective 1), 0 files undeployed (effective 0), 0 dependent files redeployed
Making... ok (1s 388ms)
Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"...
Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"... ok (0s 8ms)
Starting make in the container "BRT_DATA_HDI_DB_1" with 1 files to deploy, 0 files to undeploy... ok (1s 452ms)
Deploying to the container "BRT_DATA_HDI_DB_1"... ok (1s 645ms)
No default-access-role handling needed; global role "BRT_DATA_HDI_DB_1::access_role" will not be adapted
Unlocking the container "BRT_DATA_HDI_DB_1"... ok (0s 0ms)
Unlocking the container "BRT_DATA_HDI_DB_1" to container BRT_DATA_HDI_DB_1 done [Deployment ID: none].
Open HDI container: ended at 2023-10-16 16:24:31 (4s 191ms)
Terminal will be reused by tasks, press any key to close it.
```

SAP HANA Database Explorer - Column View:

Column View Name	Schema	Type
Calc_BRT_Partners	BRT_DATA_HDI_DB_1	CALCULATED

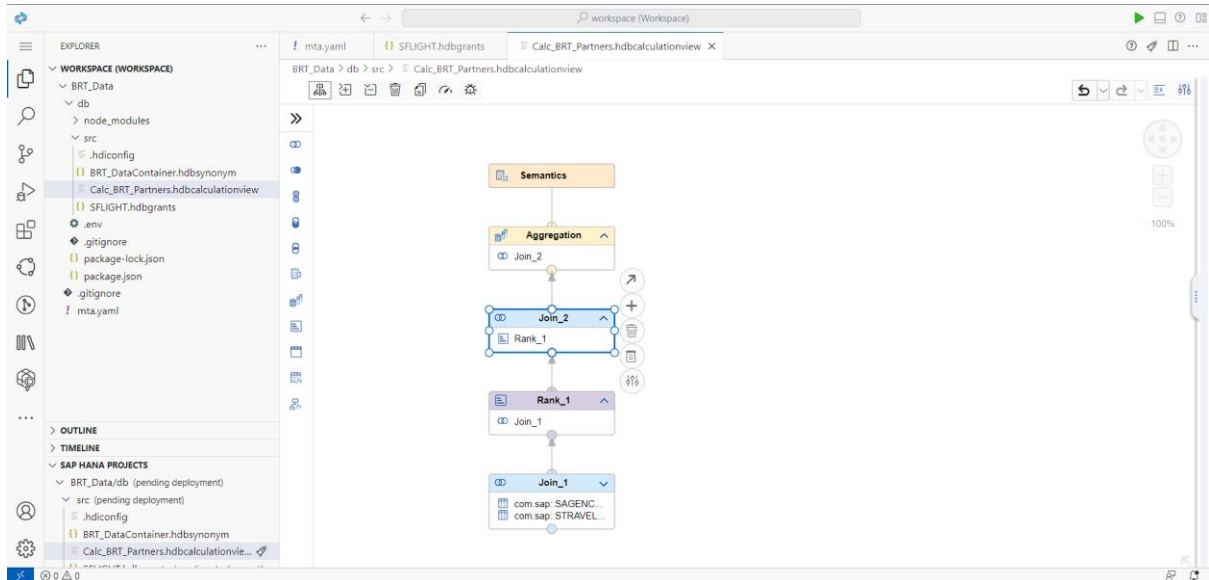
Columns:

View Column	SQL Data Type	Not Null	Default	Comment
1 AGENCYNUM	NVARCHAR(8)		NULL	AGENCYNUM
2 NAME	NVARCHAR(25)		NULL	NAME
3 NUMBOOKINGS	BIGINT		NULL	NUMBOOKINGS

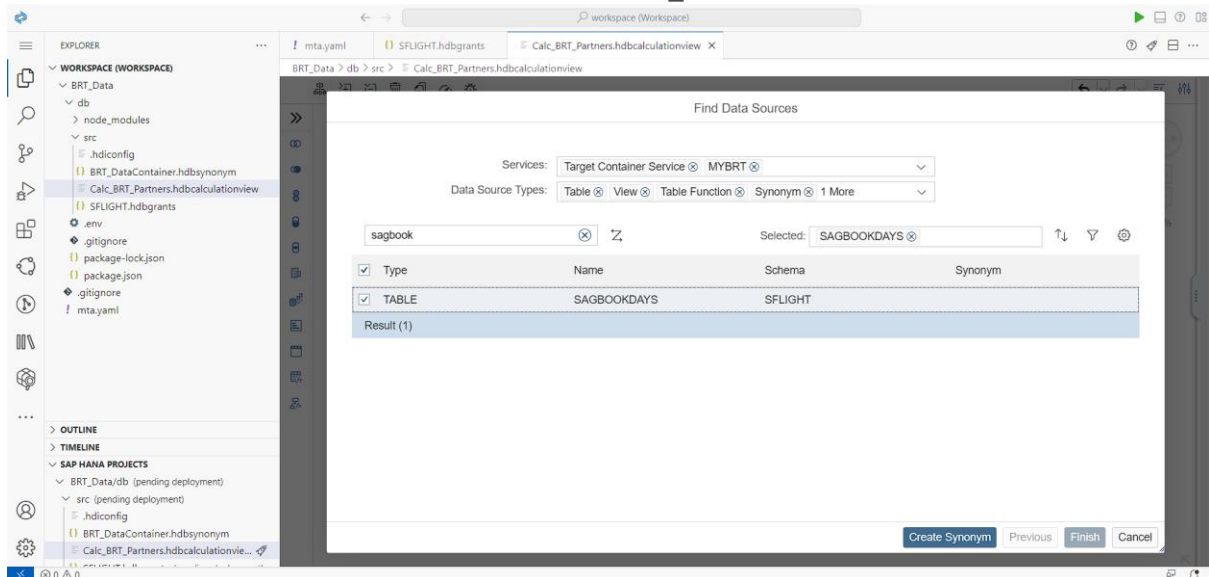
SAP HANA Database Explorer - Raw Data:

AGENCYNUM	NAME	NUMBOOKINGS
00000284	Rainy, Stormy, Cloudy	27870
00000122	Fly Low	27869
00000101	Bella Italia	27866
00000109	Kangeroos	27867
00000118	Asia By Plane	27416

16. Make new Join Node



17. Add data source “SAGBOOKDAYS” into “Join_2”



18. Set the Join Definition and Mapping of both

The image displays two screenshots of the SAP HANA Studio interface, illustrating the configuration of a join operation in a data model.

Top Screenshot: The 'Join Definition' tab is active for 'Join_2'. It shows the join between 'Rank_1' and 'com.sap::SAGBOOKDAYS'. The 'Left' side is 'Rank_1' and the 'Right' side is 'com.sap::SAGBOOKDAYS'. The 'Left Column...' is 'AGENCYNUM' and the 'Right Columns:' are 'AGENCYNUM'. The 'Join Type' is 'Inner' and the 'Cardinality' is 'n:m'. The 'Columns' tab shows 3 columns.

Bottom Screenshot: The 'Mapping' tab is active for 'Join_2'. It shows the mapping of columns from the data sources to the output columns. The 'Data Sources' are 'Rank_1' and 'com.sap::SAGBOOKDAYS'. The 'Output Columns' are 'AGENCYNUM', 'NUMBOOKINGS', 'NAME', 'DAYCOUNT', and 'ORDERDAY'. The mapping shows that 'AGENCYNUM' from both sources maps to 'AGENCYNUM' in the output, 'NUMBOOKINGS' from 'Rank_1' maps to 'NUMBOOKINGS', 'NAME' from 'Rank_1' maps to 'NAME', 'DAYCOUNT' from 'Rank_1' maps to 'DAYCOUNT', and 'ORDERDAY' from 'com.sap::SAGBOOKDAYS' maps to 'ORDERDAY'.

The screenshot displays the SAP HANA Studio interface. The top toolbar includes navigation and development icons. The left sidebar shows the Explorer, Outline, and Timeline views. The main workspace is divided into two panes. The left pane shows the file explorer for the 'workspace (Workspace)' project, with the 'Calc_BRT_Partners.hdbcalculationview' file selected. The right pane shows the diagram view of the selected calculation view, which is a 'Semantics' view. The diagram consists of several nodes: 'Aggregation', 'Rank_2', 'Join_2', 'Join_1', and 'Rank_1'. The 'Join_2' node is highlighted, showing its properties: 'Rank_1' and 'com.sap: SAGBOD'. The 'Join_1' node is also visible, showing its properties: 'com.sap: SAGENC' and 'com.sap: STRAVEL'.

The screenshot displays the SAP HANA Studio interface. On the left, the Explorer pane shows the project structure, including the 'BRT_Data' database and the 'Calc_BRT_Partners.hdbcalculationview' calculation view. The main editor shows the graphical design of this calculation view. The design consists of several nodes: 'Semantics', 'Aggregation', 'Rank_2', 'Join_3', 'Join_2', 'Rank_1', and 'Join_1'. The 'Rank_2' node is selected, and its properties are displayed in the right-hand pane. The 'Sort Column' section of the properties pane shows 'DAYCOUNT' selected with a 'Descending' sort direction.

21. Modify Aggregation mapping

The screenshot shows the SAP HANA Studio interface with the 'workspace (Workspace)' tab selected. The 'EXPLORER' pane on the left shows the project structure, including 'BRT_Data' and 'SAP HANA PROJECTS'. The 'Calc_BRT_Partners.hdbcalculationview' is selected. The 'Aggregation' tab is active, displaying a mapping of columns from 'Rank_2' to 'Output Columns'. The mapping includes: AGENCYNUM, NUMBOOKINGS, NAME, ORDERDAY, DAYCOUNT, and ORDERDAY. The 'Properties' tab is also visible at the bottom.

22. Redeploy the project

The screenshot shows the SAP HANA Studio interface with the 'workspace (Workspace)' tab selected. The 'EXPLORER' pane on the left shows the project structure, including 'BRT_Data' and 'SAP HANA PROJECTS'. The 'Calc_BRT_Partners.hdbcalculationview' is selected. The 'Deploy' button is highlighted in the 'SAP HANA PROJECTS' pane. Below the screenshot, the 'TERMINAL' pane shows the deployment process logs, including the command 'make' and the output 'Making... ok (0s 311ms)'.

```
Preparing the make transaction... ok (0s 16ms)
Adding "src/Calc_BRT_Partners.hdbcalculationview" for deploy... ok (0s 13ms)
Preparing... ok (0s 37ms)
Calculating dependencies...
Expanding...
Expanding... ok (0s 0ms)
Precompiling...
Precompiling "src/Calc_BRT_Partners.hdbcalculationview"...
Precompiling "src/Calc_BRT_Partners.hdbcalculationview"... ok (0s 4ms)
Precompiling... ok (0s 14ms)
Merging...
Merging... ok (0s 5ms)
Calculating dependencies... ok (0s 48ms)
Processing work list...
Undeploying "src/Calc_BRT_Partners.hdbcalculationview"...
Undeploying "src/Calc_BRT_Partners.hdbcalculationview"... ok (0s 40ms)
Deploying "src/Calc_BRT_Partners.hdbcalculationview"...
Deploying "src/Calc_BRT_Partners.hdbcalculationview"... ok (0s 64ms)
Processing work list... ok (0s 115ms)
Postprocessing deployed files...
Postprocessing "src/BRT_DataContainer.hdbsynonym"...
Postprocessing "src/BRT_DataContainer.hdbsynonym"... ok (0s 0ms)
Postprocessing deployed files... ok (0s 10ms)
Finalizing...
Finalizing... ok (0s 19ms)
Make succeeded (0 warnings): 1 files deployed (effective 1), 0 files undeployed (effective 0), 0 dependent files redeployed
Making... ok (0s 311ms)
Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"...
Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"... ok (0s 9ms)
Starting make in the container "BRT_DATA_HDI_DB_1" with 1 files to deploy, 0 files to undeploy... ok (0s 356ms)
Deploying to the container "BRT_DATA_HDI_DB_1"... ok (0s 544ms)
No default-access-role handling needed; global role "BRT_DATA_HDI_DB_1::access_role" will not be adapted
Unlocking the container "BRT_DATA_HDI_DB_1"...
Unlocking the container "BRT_DATA_HDI_DB_1"... ok (0s 0ms)
Deployment to container BRT_DATA_HDI_DB_1 done [Deployment ID: none].
Deployment ended at 2023-10-16 17:31:12
(2s 753ms)
```

23. Check the output with HDI Container

The screenshot displays the SAP HANA Database Explorer interface, divided into two main sections: the top workspace and the bottom database explorer.

Top Section (Workspace):

- EXPLORER:** Shows the project structure under 'WORKSPACE (WORKSPACE)'. The 'Calc_BRT_Partners.hdbcalculationview' is selected.
- Diagram:** A calculation view diagram is shown, consisting of a 'Join_1' node at the bottom, followed by a 'Rank_1' node, then a 'Join_2' node, and finally a 'Rank_2' node at the top.
- Open HDI container:** A tooltip is visible over the 'Calc_BRT_Partners.hdbcalculationview' in the explorer.

Bottom Section (SAP HANA Database Explorer):

- Filter Instances:** The 'SharedDevKey@BRT_DataContainer' is selected.
- Analysis:** The 'Raw Data' tab is active, showing a table with 5 rows.
- Table Data:**

	AGENCYNUM	NAME	ORDERDAY	NUMBOOKINGS	DAYCOUNT
1	00000122	Fly Low	THURSDAY	27869	4037
2	00000118	Asia By Plane	TUESDAY	27416	4004
3	00000101	Bella Italia	THURSDAY	27866	4038
4	00000284	Rainy, Stormy, Cloudy	MONDAY	27870	4108
5	00000109	Kangeroos	THURSDAY	27867	4055