

## Add13 Greatest and least pivot

- ❖ The Objective is to pivot and select worst and best sells of a source table to generate a file with the worst and best sells and sellers
- The source tables contains the daily sell result of 4 salesman, Alice, Clara, John and Henry, with one column per personal results
- At a day several salesmen can be the best or the worst

RESULT_DATE	RESULT_SALESMAN1	RESULT_SALESMAN2	RESULT_SALESMAN3	RESULT_SALESMAN4
2021-01-01 00:00:00:000	42	30	32	39
2021-01-02 00:00:00:000	16	21	1	20
2021-01-03 00:00:00:000	44	48	7	14
2021-01-04 00:00:00:000	24	21	33	22
2021-01-05 00:00:00:000	28	18	44	4
2021-01-06 00:00:00:000	31	32	27	13
2021-01-07 00:00:00:000	35	28	36	5
2021-01-08 00:00:00:000	4	23	27	46
2021-01-09 00:00:00:000	22	19	19	35
2021-01-10 00:00:00:000	44	25	15	20
2021-01-11 00:00:00:000	13	6	33	18
2021-01-12 00:00:00:000	23	43	25	36
2021-01-13 00:00:00:000	45	15	35	26
2021-01-14 00:00:00:000	3	30	21	34
2021-01-15 00:00:00:000	27	18	44	28
2021-01-16 00:00:00:000	9	0	40	44
2021-01-17 00:00:00:000	44	42	25	32
2021-01-18 00:00:00:000	44	15	0	4
2021-01-19 00:00:00:000	28	41	41	35

result_date	best_seller	worst_seller	best_sell	worst_sell
2021-01-01	Henry	John	42	30
2021-01-02	John	Clara	21	1
2021-01-03	John	Clara	48	7
2021-01-04	Clara	John	33	21
2021-01-05	Clara	Alice	44	4
2021-01-06	John	Alice	32	13
2021-01-07	Clara	Alice	36	5
2021-01-08	Alice	Henry	46	4
2021-01-09	Alice	Clara,John	35	19
2021-01-10	Henry	Clara	44	15
2021-01-11	Clara	John	33	6
2021-01-12	John	Henry	43	23
2021-01-13	Henry	John	45	15
2021-01-14	Alice	Henry	34	3
2021-01-15	Clara	John	44	18
2021-01-16	Alice	John	44	0
2021-01-17	Henry	Clara	44	25
2021-01-18	Henry	Clara	44	0
2021-01-19	Clara,John	Henry	41	28

several salesmen can be the best or the worst

ID_SALESMAN	NM_SALESMAN
1	Henry
2	John
3	Clara
4	Alice

In case of several salesmen with the best or the worst, a list of salesmen must be built

- ❖ 1 - Execute the SQL file (Init Environment.sql) on DATAMART connection to create the required schema and tables

- ▼ Training
  - > Components
  - ▼ Exos materials
    - ▼ AddExo
      - > Add01\_BindLink
      - > Add02\_GenerateAfileWithAFile
      - > Add03\_HierarchicalFiles
      - > Add04\_IntegrateMultipleFilesInDB
      - > Add05\_WaitDifferentFilesInDB
      - > Add06\_OperatingSystemCommand
      - > Add07\_LoopInAProcess
      - > Add08\_PivotOnActivity
      - > Add09\_InhibitoryLink
      - > Add10\_PivotWithColumnName
      - > Add11\_SQLOperation
      - > Add12\_SplitFile
      - ▼ Add13\_Greatest\_and\_least\_pivot
        - ▼ 10-Materials
          - > FILE\_Server
            - Greatest\_and\_least\_pivot.pdf
            - Init Environment.sql**
            - step\_by\_step\_syntax\_help.txt

1

```

DROP SCHEMA SALE_RESULT IF EXISTS CASCADE;
CREATE SCHEMA SALE_RESULT;
CREATE TABLE SALE_RESULT.DAILY_RESULT (
    result_date    TIMESTAMP NOT NULL,
    result_salesman1 INTEGER,
    result_salesman2 INTEGER,
    result_salesman3 INTEGER,
    result_salesman4 INTEGER,
    CONSTRAINT    pk_daily_result PRIMARY KEY (result_date));
INSERT INTO SALE_RESULT.DAILY_RESULT
SELECT TO_TIMESTAMP(LPAD(gen_days,2,'0')+'/01/'+YEAR(current_timestamp) , 'DD/MM/YYYY') AS result_date,
       CAST(rand()*50 AS INTEGER) AS result_salesman1,
       CAST(rand()*50 AS INTEGER) AS result_salesman2,
       CAST(rand()*50 AS INTEGER) AS result_salesman3,
       CAST(rand()*50 AS INTEGER) AS result_salesman4
FROM   UNNEST(SEQUENCE_ARRAY(1, 31, 1)) AS generate_series(gen_days);
CREATE TABLE SALE_RESULT.SALESMAN (
    ID_SALESMAN INTEGER NOT NULL,
    NM_SALESMAN VARCHAR(100),
    CONSTRAINT PK_SALESMAN PRIMARY KEY (ID_SALESMAN));
INSERT INTO SALE_RESULT.SALESMAN VALUES (1, 'Henry'), (2, 'John'), (3, 'Clara'), (4, 'Alice');
                
```

- ❖ 2 - Reverse the schema and the tables

- ▼ HSQL\_Datamart
  - ▼ HSQL\_Datamart
    - > HOTEL\_DATAMART
    - > REJECT
    - ▼ SALE\_RESULT
      - > Hierarchy
      - > DAILY\_RESULT
      - > SALESMAN

## ❖ 3 – Create a mapping

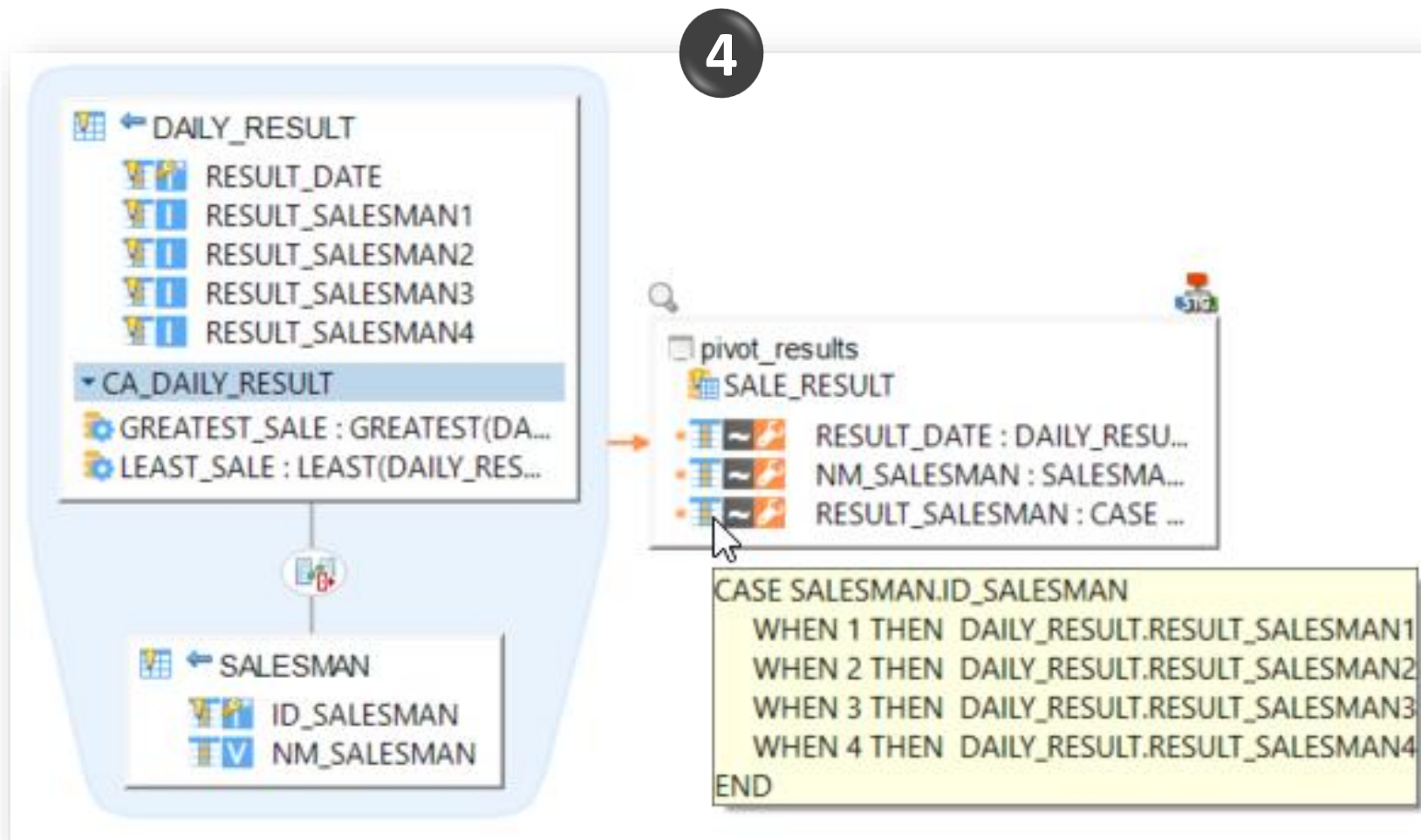
- Drag & drop the two tables and use a CROSS JOIN to link them
- Create two computed fields on DAILY\_RESULT table

The screenshot displays the Stambia Studio interface for creating a mapping. The main workspace shows a diagram where the **DAILY\_RESULT** table is joined to the **SALESMAN** table. The **DAILY\_RESULT** table has fields: **RESULT\_DATE**, **RESULT\_SALESMAN1**, **RESULT\_SALESMAN2**, **RESULT\_SALESMAN3**, and **RESULT\_SALESMAN4**. The **SALESMAN** table has fields: **ID\_SALESMAN** and **NM\_SALESMAN**. The **DAILY\_RESULT** table is also configured with two computed fields under the **CA\_DAILY\_RESULT** group: **GREATEST\_SALE : GREATEST(DA...** and **LEAST\_SALE : LEAST(DAILY\_RES...**.

At the bottom, the **Join SALESMAN <-> DAILY\_RESULT** configuration panel is visible. It includes a **Standard** tab, an **Enable** checkbox, a **Join Type** dropdown (set to **Cross**), and an **Execution Location** dropdown (set to **Source**). The **Advanced** tab is also visible.

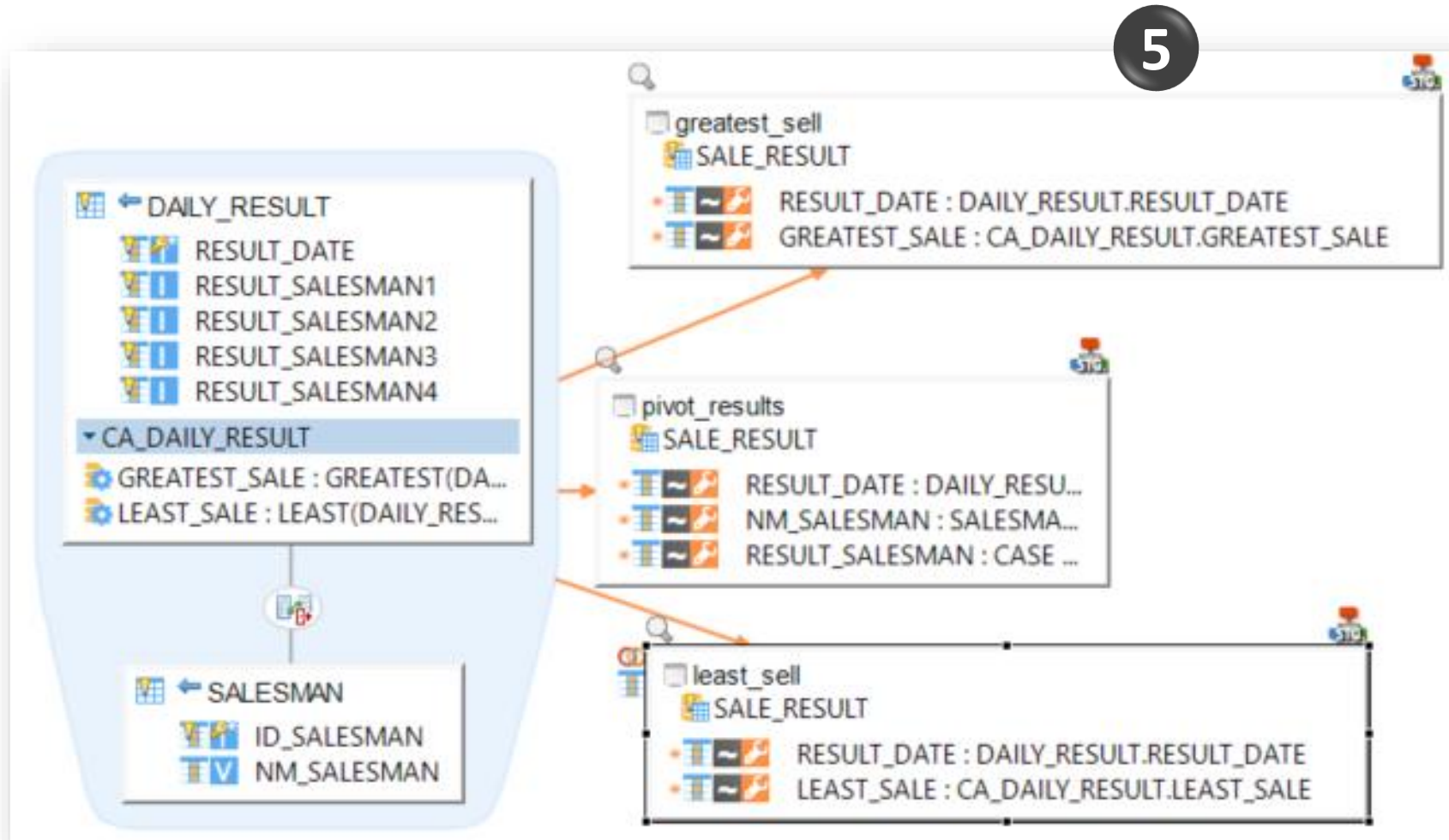
A large red circle with the number **3** is overlaid on the diagram, indicating the step number.

- ❖ 4 - Create a stage using SALE\_RESULT schema
  - Define the expressions of the 3 fields

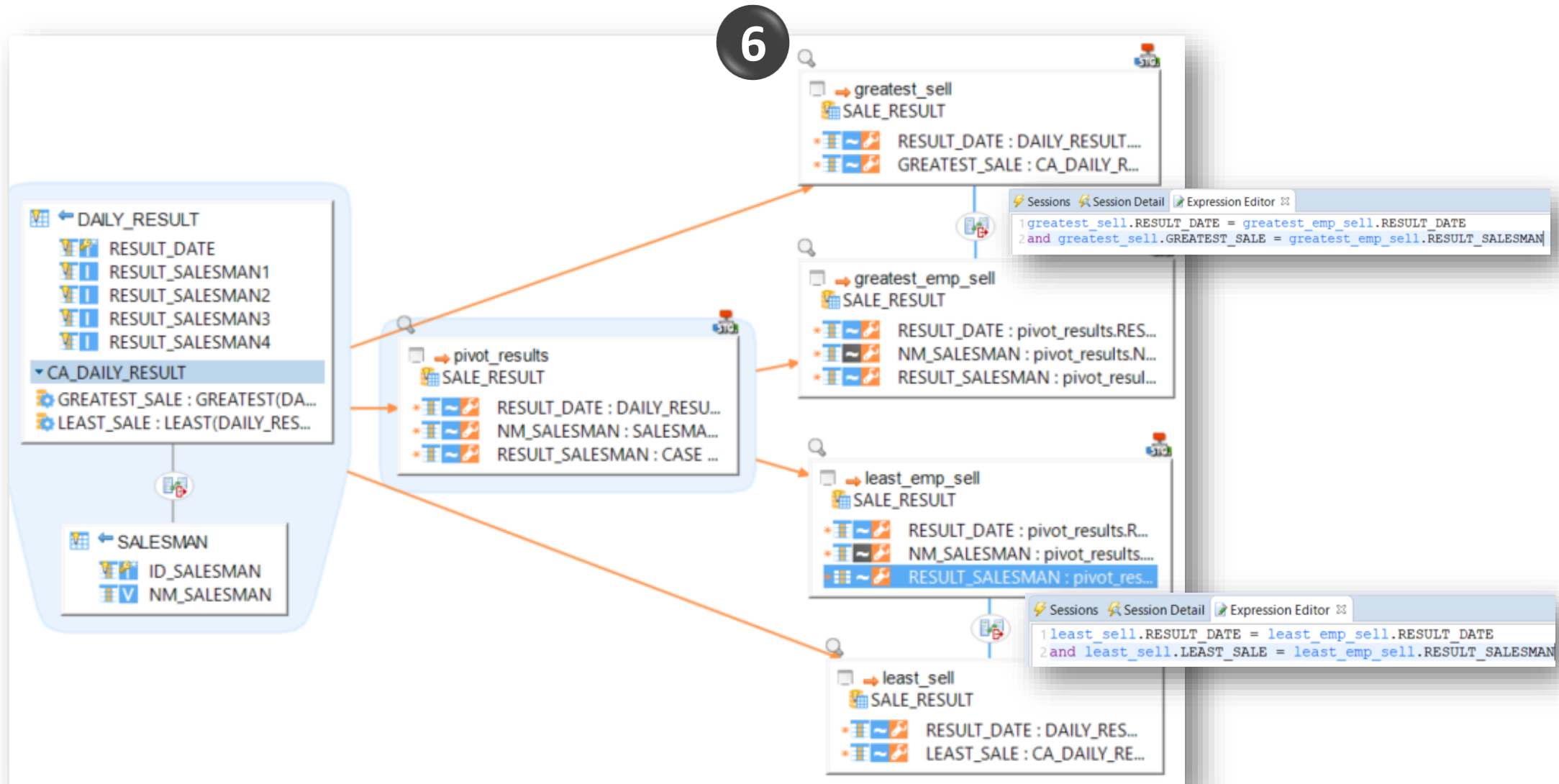




- ❖ 5 - Create 2 new stages using SALE\_RESULT schema
  - One for the best sell and one for the worst sell of each day



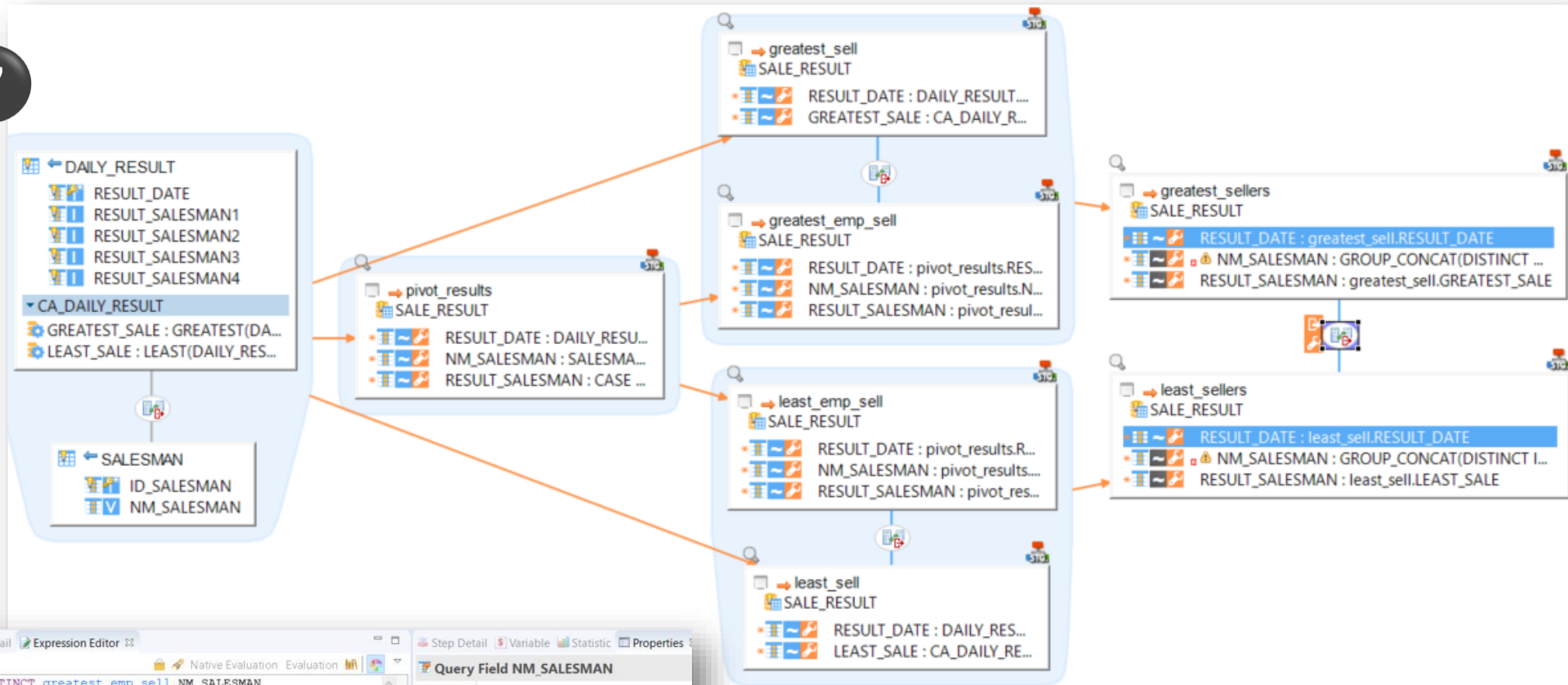
- ❖ 6 - Create 2 new stages with the same columns as stg\_employe\_res stage
  - Join them with the two stages of the previous slide



## ❖ 7 - Create 2 new stages using SALE\_RESULT schema

- A aggregation must be done, using GROUP\_CONCAT to concatenate greatest/least list of sellers with the same value
- Create a join on the date between those two new stages

7



Expression Editor

```
1 GROUP_CONCAT(DISTINCT greatest_emp_sell.NM_SALESMAN
2 ORDER BY greatest_emp_sell.NM_SALESMAN SEPARATOR ',')
```

Query Field NM\_SALESMAN

Standard Core

Alias NM\_SALESMAN

Enable Execution Location

Source Staging Area

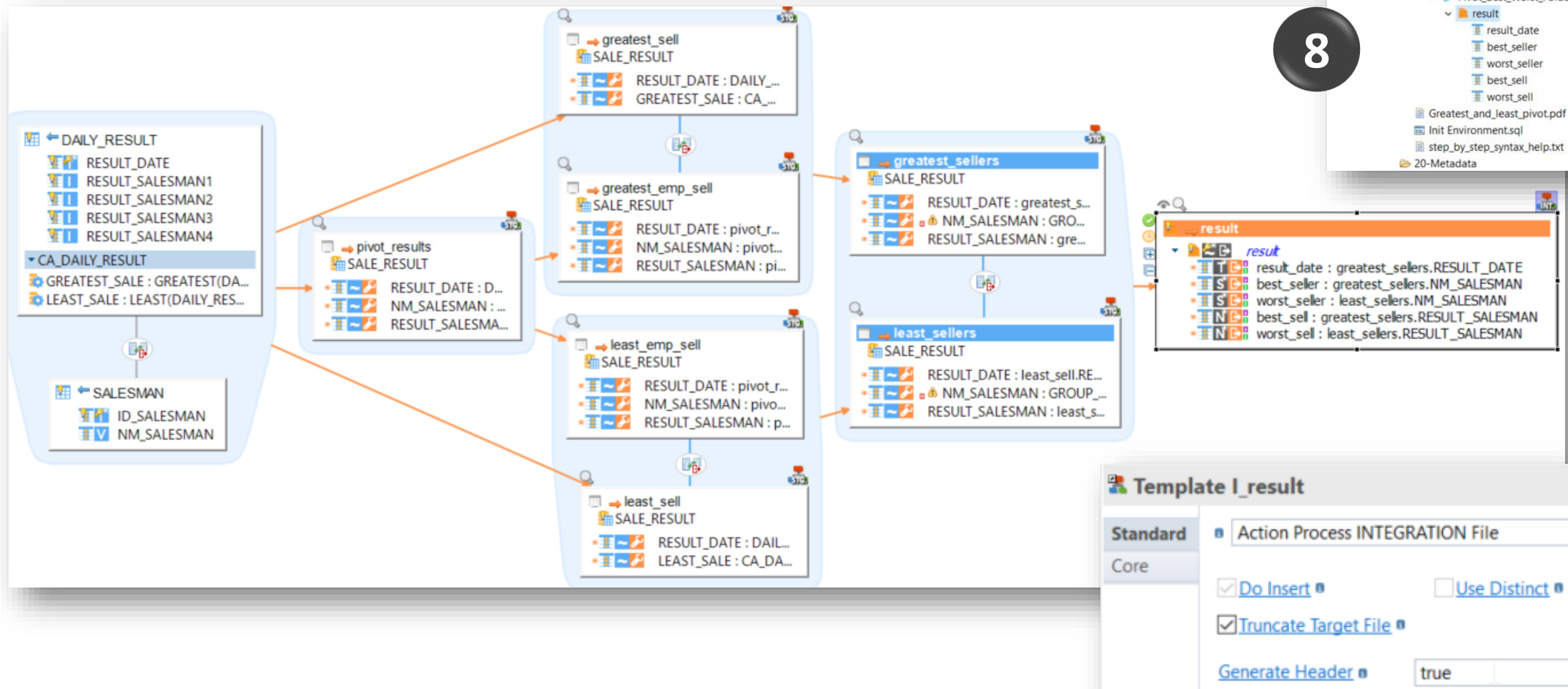
Mapping

Aggregate Enable Datatype

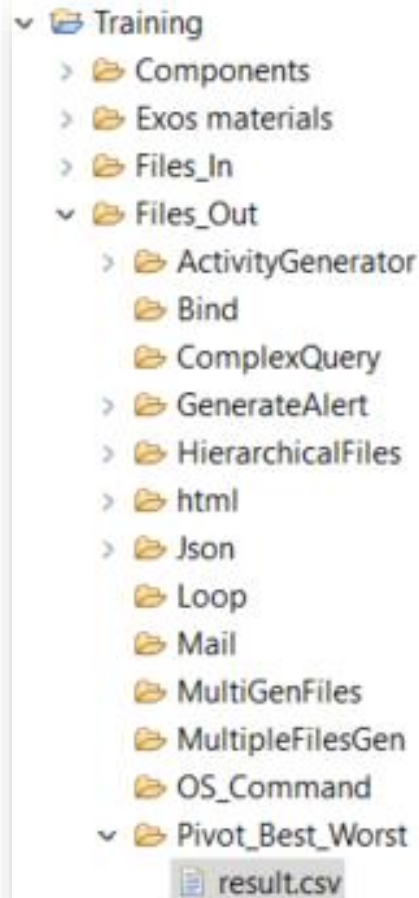
```
1 GROUP_CONCAT(DISTINCT least_emp_sell.NM_SALESMAN
2 ORDER BY least_emp_sell.NM_SALESMAN SEPARATOR ',')
```



## ❖ 8 – Map to generate the result file



## ❖ 9 – The result file :



9

result_date	best_seller	worst_seller	best_sell	worst_sell
2021-01-01	Henry	John	42	30
2021-01-02	John	Clara	21	1
2021-01-03	John	Clara	48	7
2021-01-04	Clara	John	33	21
2021-01-05	Clara	Alice	44	4
2021-01-06	John	Alice	32	13
2021-01-07	Clara	Alice	36	5
2021-01-08	Alice	Henry	46	4
2021-01-09	Alice	Clara,John	35	19
2021-01-10	Henry	Clara	44	15
2021-01-11	Clara	John	33	6
2021-01-12	John	Henry	43	23
2021-01-13	Henry	John	45	15
2021-01-14	Alice	Henry	34	3
2021-01-15	Clara	John	44	18
2021-01-16	Alice	John	44	0
2021-01-17	Henry	Clara	44	25
2021-01-18	Henry	Clara	44	0
2021-01-19	Clara,John	Henry	41	28
2021-01-20	Henry	John	47	1
2021-01-21	John	Alice	41	1
2021-01-22	Henry	Alice	44	7
2021-01-23	Alice	Henry	49	20
2021-01-24	John	Alice	35	4
2021-01-25	Alice	Henry	49	17
2021-01-26	Alice	John	47	9
2021-01-27	Henry	John	39	17
2021-01-28	Clara	Henry	33	9
2021-01-29	Alice	John	44	0
2021-01-30	Clara	John	48	2
2021-01-31	Clara	Alice	45	13