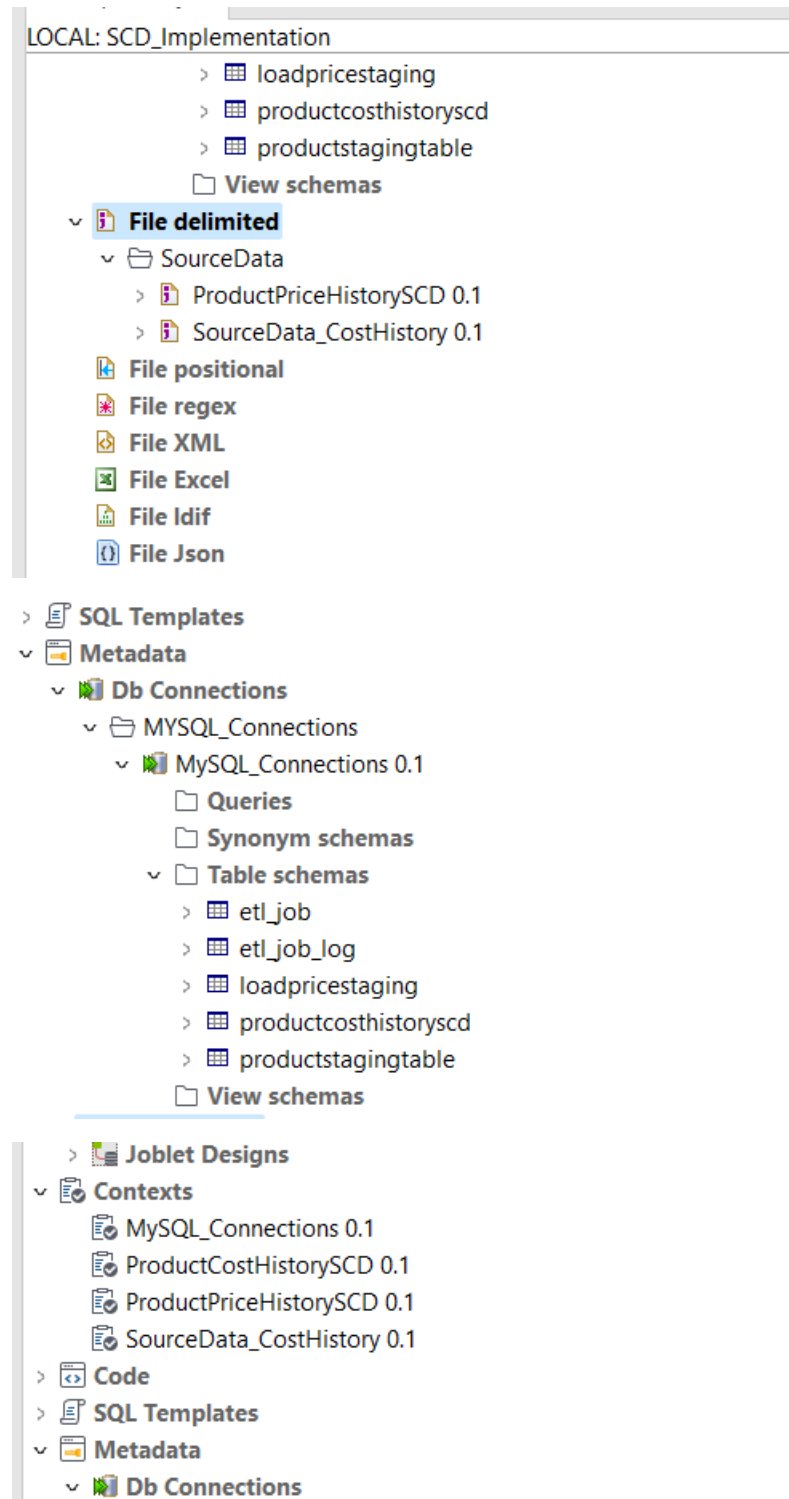
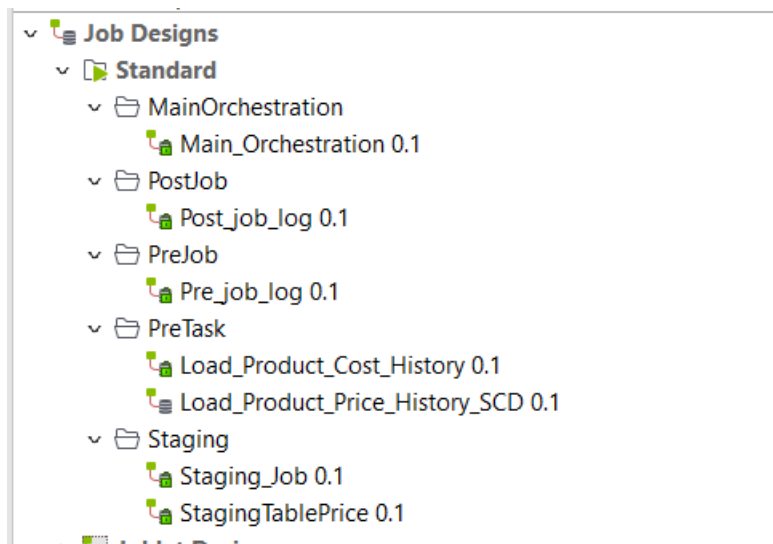
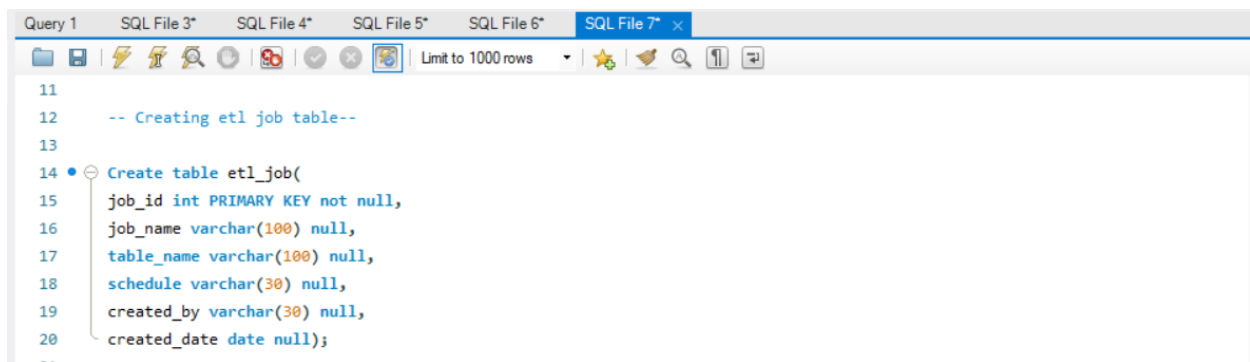


Talend SCD implementation with Audit Logging and Orchestration pipeline (Individual Submission)

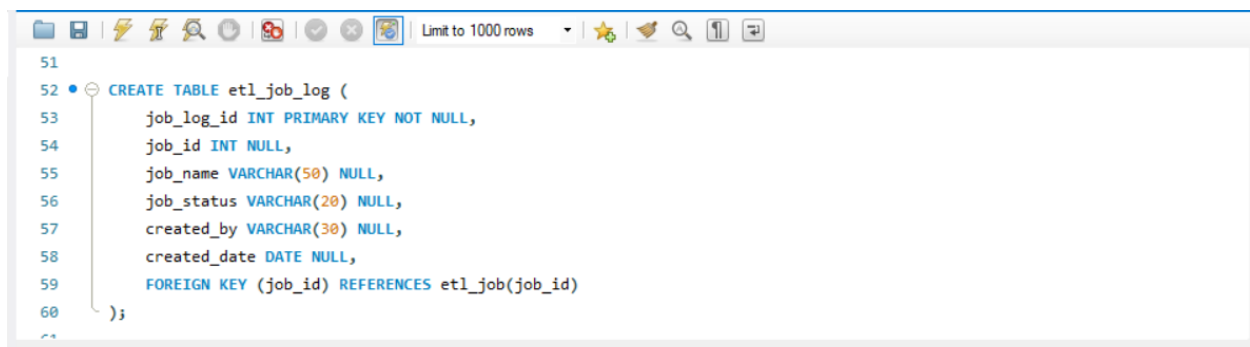




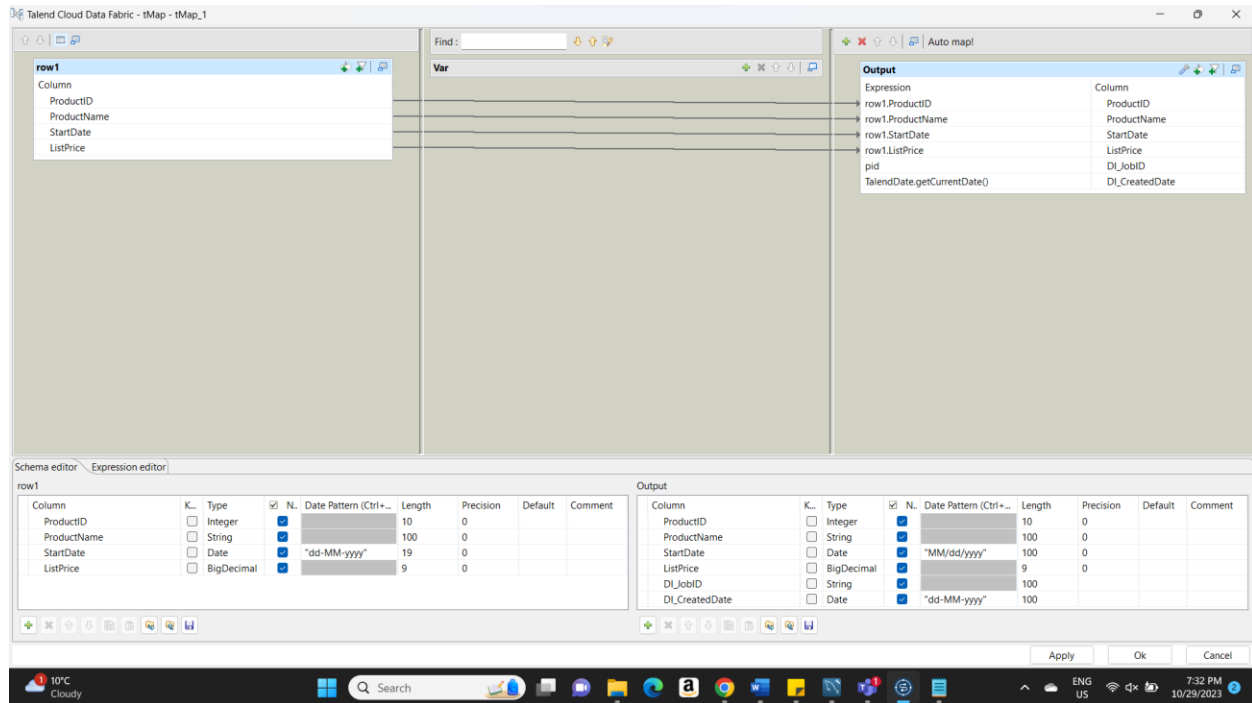
1. DDL scripts for
a. etl_job



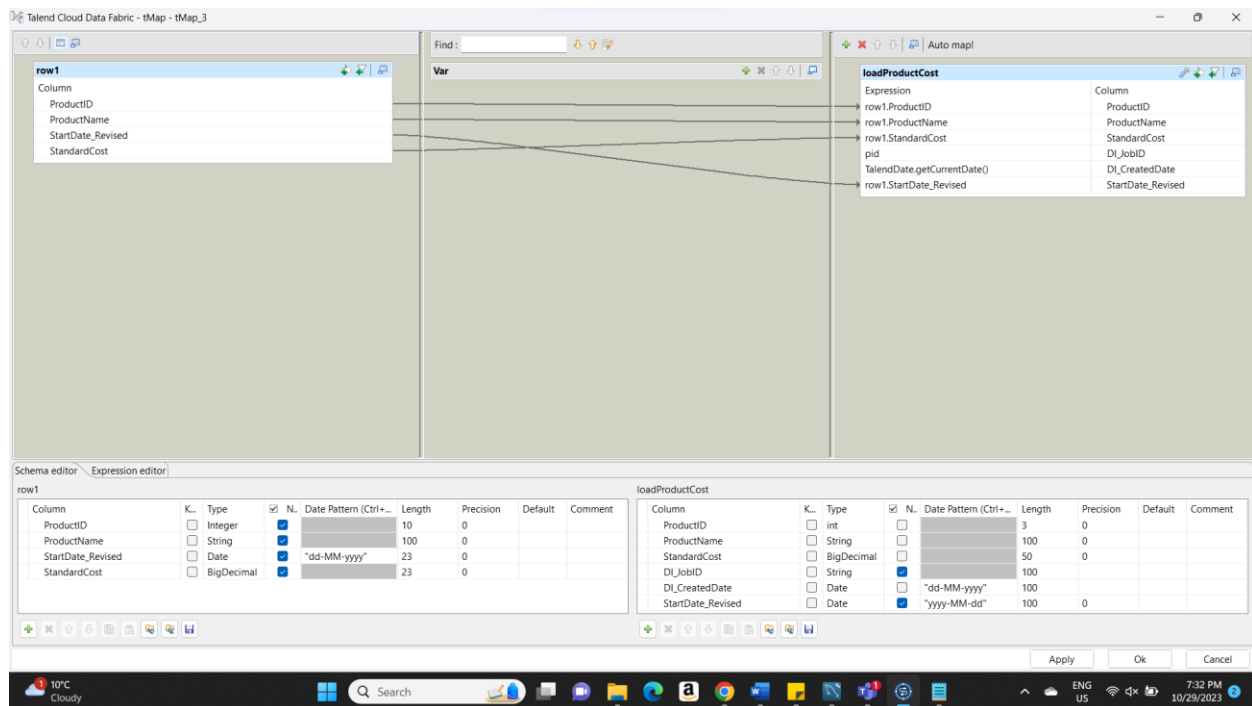
b. etl_job_log



c. ProductPriceHistorySCD table

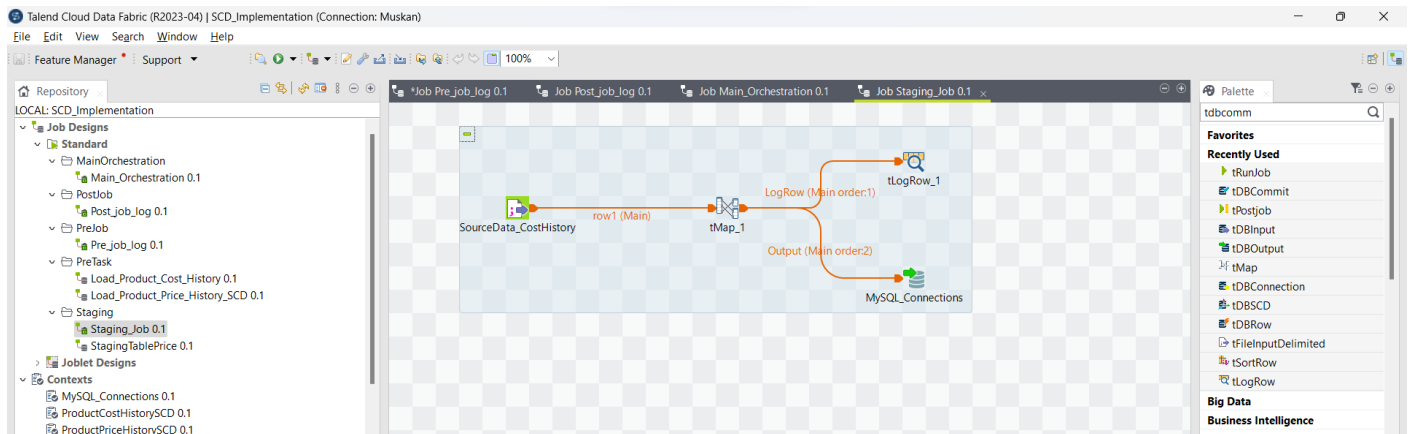


d. ProductCostHistorySCD table



2. Screenshot of all talend jobs and Screenshot of all tables' data in the database after the talend job run

Staging for Product Cost History



MySQL Workbench

Talend x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- food_inspection
- lacrima
- productcosthistoryscd
 - etl_job_log
 - etl_job
 - loadpricestaging
 - productcosthistoryscd
 - productstagingtable
- sakila
- seattlepetiscense
- seattlepetiscense
- sys
- world

Administration Schemas

Information

No object selected

Query 1 SQL File 3* SQL File 4* SQL File 5* SQL File 6* SQL File 7*

Limit to 1000 rows

SQL Additions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

select * from productstagingtable;

Result Grid

ProductID	ProductName	StartDate_Revised	StandardCost
707	Sport-100 Helmet, Red	2019-05-31 00:00:00.000	12.0278
707	Sport-100 Helmet, Red	2020-05-30 00:00:00.000	13.8782
707	Sport-100 Helmet, Red	2021-05-30 00:00:00.000	13.0863
708	Sport-100 Helmet, Black	2019-05-31 00:00:00.000	12.0278
708	Sport-100 Helmet, Black	2020-05-30 00:00:00.000	13.8782
708	Sport-100 Helmet, Black	2021-05-30 00:00:00.000	13.0863
709	Mountain Bike Socks, M	2019-05-31 00:00:00.000	3.3963
709	Mountain Bike	2019-05-31 00:00:00.000	3.3963
709	Mountain Bike Socks-2, M	2020-01-15 00:00:00.000	5.3963
709	Mountain Bike-V3	2020-01-15 00:00:00.000	5.3963
709	Mountain Bike-V3	2022-03-31 00:00:00.000	4.3963
709	Mountain Bike-V3	2018-05-31 00:00:00.000	4.3963
710	Mountain Bike Socks, L	2019-05-31 00:00:00.000	3.3963
711	Sport-100 Helmet, Blue	2019-05-31 00:00:00.000	12.0278

productstagingtable 6 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
10	01:58:54	DROP TABLE 'productcosthistoryscd' 'productcosthistoryscd_without_staging'	0 row(s) affected	0.016 sec
11	01:59:02	DROP TABLE 'productcosthistoryscd' 'productcosthistoryscdtest'	0 row(s) affected	0.016 sec
12	01:59:11	DROP TABLE 'productcosthistoryscd' 'stagingprice'	0 row(s) affected	0.016 sec
13	02:10:51	SELECT 'etl_job' 'job_id', 'etl_job' 'job_name', 'etl_job' 'table_name', 'etl_job' 'schedule', ...	0 row(s) returned	0.000 sec / 0.000 sec
14	17:55:00	select * from productcosthistoryscd LIMIT 0, 1000	397 row(s) returned	0.032 sec / 0.000 sec
15	17:55:39	select * from productstagingtable LIMIT 0, 1000	400 row(s) returned	0.015 sec / 0.000 sec

Object Info Session

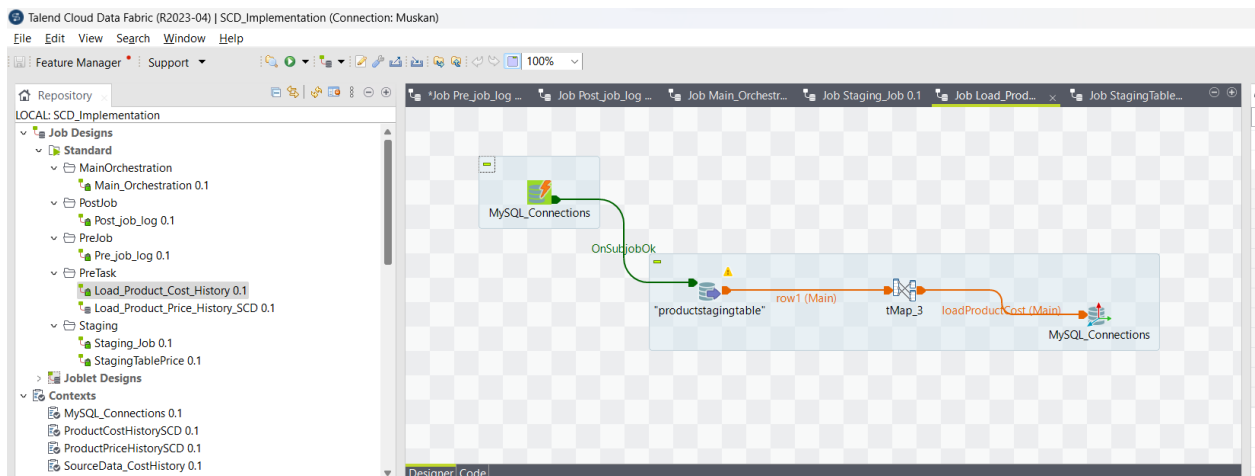
9°C Cloudy

Search

ENG IN

5:56 PM 10/29/2023

Load Product Cost History



49

50

51

52 • `select * from productcosthistoryscd;`

53

Result Grid									
Filter Rows:									
Edit: Export/Import: Wrap Cell Content:									
ProductID	ProductName	StandardCost	DI_JobID	DI_CreatedDate	StartDate	SCD_SK	scd_start	scd_end	scd_ve
707	Sport-100 Helmet, Red	12	IZ 1wkU	2023-10-29 01:57:29	NULL	1	2019-05-31 00:00:00	2020-05-30 00:00:00	1
707	Sport-100 Helmet, Red	14	IZ 1wkU	2023-10-29 01:57:29	NULL	2	2020-05-30 00:00:00	2021-05-30 00:00:00	2
707	Sport-100 Helmet, Red	13	IZ 1wkU	2023-10-29 01:57:29	NULL	3	2021-05-30 00:00:00	2050-01-01 12:00:00	3
708	Sport-100 Helmet, Black	12	IZ 1wkU	2023-10-29 01:57:29	NULL	4	2019-05-31 00:00:00	2020-05-30 00:00:00	1
708	Sport-100 Helmet, Black	14	IZ 1wkU	2023-10-29 01:57:29	NULL	5	2020-05-30 00:00:00	2021-05-30 00:00:00	2
708	Sport-100 Helmet, Black	13	IZ 1wkU	2023-10-29 01:57:29	NULL	6	2021-05-30 00:00:00	2050-01-01 12:00:00	3
709	Mountain Bike-V3	3	IZ 1wkU	2023-10-29 01:57:29	NULL	7	2019-05-31 00:00:00	2020-01-15 00:00:00	1
709	Mountain Bike-V3	5	IZ 1wkU	2023-10-29 01:57:29	NULL	8	2020-01-15 00:00:00	2022-03-31 00:00:00	2
709	Mountain Bike-V3	4	IZ 1wkU	2023-10-29 01:57:29	NULL	9	2022-03-31 00:00:00	2050-01-01 12:00:00	3
710	Mountain Bike Socks, L	3	IZ 1wkU	2023-10-29 01:57:29	NULL	10	2019-05-31 00:00:00	2050-01-01 12:00:00	1
711	Sport-100 Helmet, Blue	12	IZ 1wkU	2023-10-29 01:57:29	NULL	11	2019-05-31 00:00:00	2020-05-30 00:00:00	1
711	Sport-100 Helmet, Blue	14	IZ 1wkU	2023-10-29 01:57:29	NULL	12	2020-05-30 00:00:00	2021-05-30 00:00:00	2
711	Sport-100 Helmet, Blue	13	IZ 1wkU	2023-10-29 01:57:29	NULL	13	2021-05-30 00:00:00	2050-01-01 12:00:00	3

productcosthistoryscd 10



SCD component editor

filter

Unused

Source keys

ProductID

Surrogate keys

nameSCD_SK

creationAuto increment

complement

Type 0 fields

Type 1 fields

DI_CreatedDate

DI_JobID

ProductName

Type 2 fields

StandardCost

Versioning

type	name	creation	compleme...
start	scd_start	Input field	StartDate_Rev
end	scd_end	Fixed year value	2050
<input checked="" type="checkbox"/> versi...	scd_version		
<input checked="" type="checkbox"/> active	scd_active		

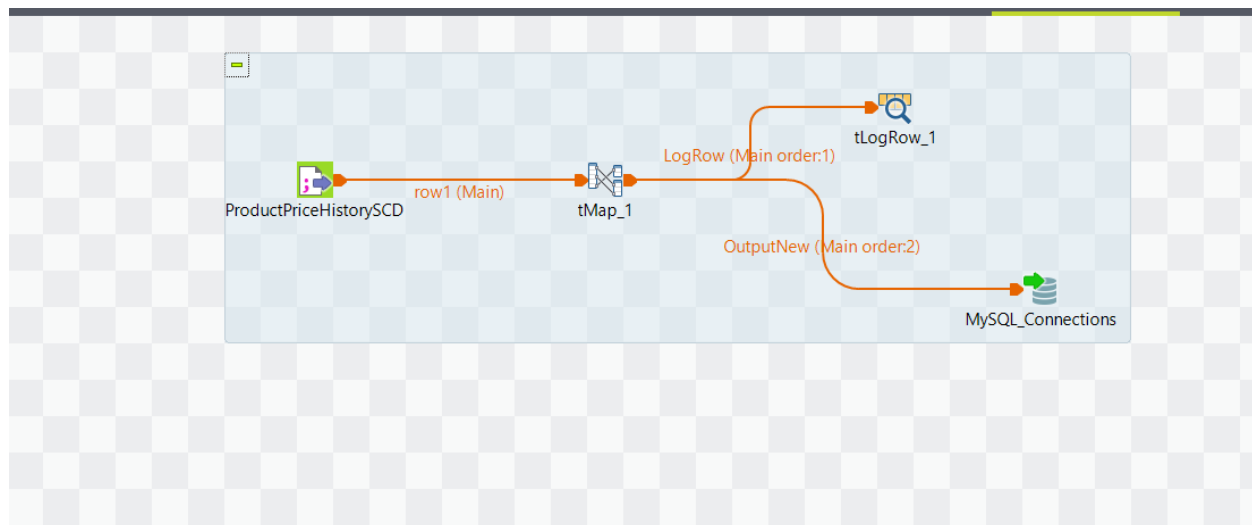
Type 3 fields

current value	previous value	

OK

Cancel

Staging for Product Price History



Query 1 SQL File 3* SQL File 4* SQL File 5* SQL File 6* SQL File 7* x

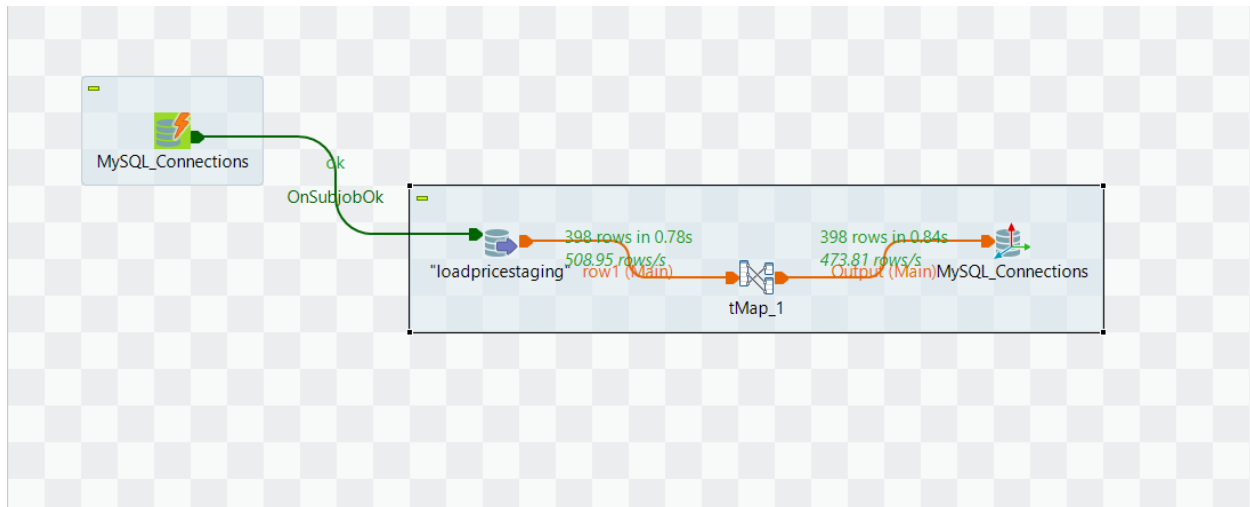
Limit to 1000 rows

```
57
58 • select * from loadpricestaging;
59
60
61
```

Result Grid Filter Rows: Export: Wrap Cell Content: [\[A\]](#)

	ProductID	ProductName	StartDate	ListPrice
▶	749	Road-150 Red, 62	2021-07-05 00:00:00	3578
	750	Road-150 Red, 44	2021-07-05 00:00:00	3578
	751	Road-150 Red, 48	2021-07-05 00:00:00	3578
	752	Road-150 Red, 52	2021-07-05 00:00:00	3578
	753	Road-150 Red, 56	2021-07-05 00:00:00	3578
	771	Mountain-100 Silver, 38	2021-07-05 00:00:00	3400
	772	Mountain-100 Silver, 42	2021-07-05 00:00:00	3400
	773	Mountain-100 Silver, 44	2021-07-05 00:00:00	3400
	774	Mountain-100 Silver, 48	2021-07-05 00:00:00	3400
	775	Mountain-100 Black, 38	2021-07-05 00:00:00	3375
	776	Mountain-100 Black, 42	2021-07-05 00:00:00	3375
	777	Mountain-100 Black, 44	2021-07-05 00:00:00	3375
	778	Mountain-100 Black, 48	2021-07-05 00:00:00	3375
	789	Road-250 Red, 44	2022-06-05 00:00:00	2443

Loading Product Price History



```

59
60 • select * from loadprice;
61

```

ProductID	ProductName	StartDate	ListPrice	DI_JobID	DI_CreatedDate	SCD_SK	scd_start	scd_end	scd_version
749	Road-150 Red, 62	NULL	3578	RsjH5J	2023-10-29 18:17:37	1	2021-07-05 00:00:00	2050-01-01 12:00:00	1
750	Road-150 Red, 44	NULL	3578	RsjH5J	2023-10-29 18:17:37	2	2021-07-05 00:00:00	2050-01-01 12:00:00	1
751	Road-150 Red, 48	NULL	3578	RsjH5J	2023-10-29 18:17:37	3	2021-07-05 00:00:00	2050-01-01 12:00:00	1
752	Road-150 Red, 52	NULL	3578	RsjH5J	2023-10-29 18:17:37	4	2021-07-05 00:00:00	2050-01-01 12:00:00	1
753	Road-150 Red, 56	NULL	3578	RsjH5J	2023-10-29 18:17:37	5	2021-07-05 00:00:00	2050-01-01 12:00:00	1
771	Mountain-100 Silver, 38	NULL	3400	RsjH5J	2023-10-29 18:17:37	6	2021-07-05 00:00:00	2050-01-01 12:00:00	1
772	Mountain-100 Silver, 42	NULL	3400	RsjH5J	2023-10-29 18:17:37	7	2021-07-05 00:00:00	2050-01-01 12:00:00	1
773	Mountain-100 Silver, 44	NULL	3400	RsjH5J	2023-10-29 18:17:37	8	2021-07-05 00:00:00	2050-01-01 12:00:00	1
774	Mountain-100 Silver, 48	NULL	3400	RsjH5J	2023-10-29 18:17:37	9	2021-07-05 00:00:00	2050-01-01 12:00:00	1
775	Mountain-100 Black, 38	NULL	3375	RsjH5J	2023-10-29 18:17:37	10	2021-07-05 00:00:00	2050-01-01 12:00:00	1
776	Mountain-100 Black, 42	NULL	3375	RsjH5J	2023-10-29 18:17:37	11	2021-07-05 00:00:00	2050-01-01 12:00:00	1
777	Mountain-100 Black, 44	NULL	3375	RsjH5J	2023-10-29 18:17:37	12	2021-07-05 00:00:00	2050-01-01 12:00:00	1
778	Mountain-100 Black, 48	NULL	3375	RsjH5J	2023-10-29 18:17:37	13	2021-07-05 00:00:00	2050-01-01 12:00:00	1

loadprice 9 x

Apply

filter

Unused

Source keys

ProductID

Surrogate keys

name

SCD_SK

creation

Auto increment

complement

Type 0 fields

Type 1 fields

Type 2 fields

ListPrice

Versioning

type	name	creation	compleme...
start	scd_start	Input field	StartDate
end	scd_end	Fixed year value	2050
<input checked="" type="checkbox"/> versi...	scd_version		
<input checked="" type="checkbox"/> active	scd_active		

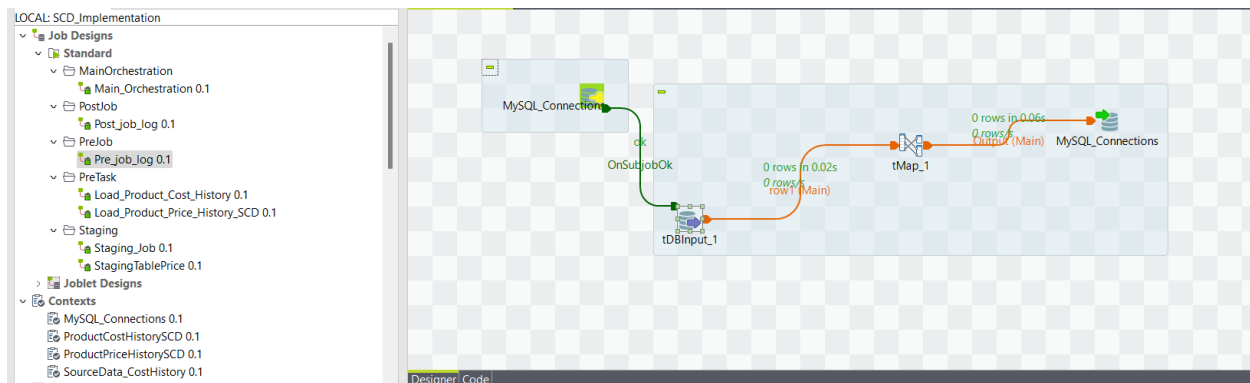
Type 3 fields

current value	previous value

OK

Cancel

Pre Job Log



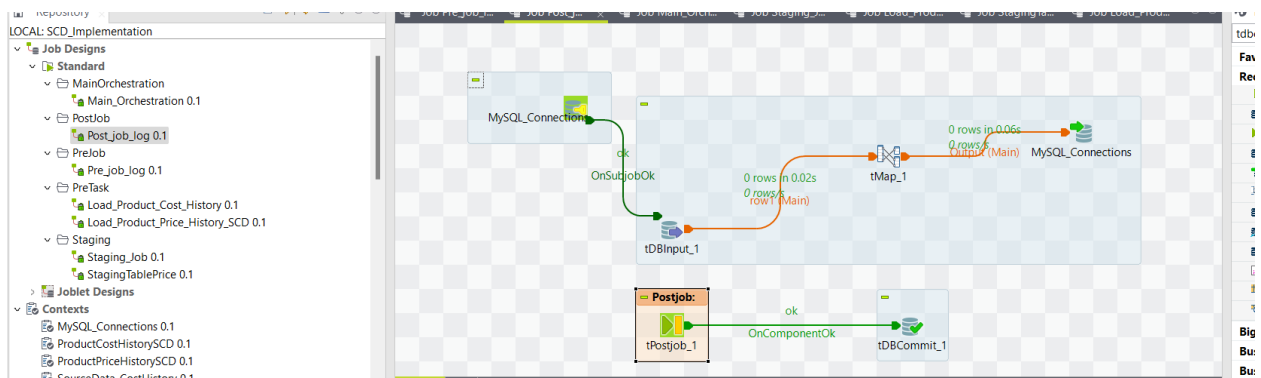
```

59
60
61
62 • select * from etl_job_log;
63
64
65 • select * from loadpricestaging;
66 • select * from loadprice;
67
68 • select * from productstagingtable;

```

Result Grid						
	job_id	job_name	table_name	schedule	created_by	created_date
▶	1	Load_Product_Cost_History	productcosthistoryscd	Daily	muska	2023-07-28
	2	Load_Product_Price_History_SCD	LoadPrice	Daily	muska	2023-07-28
•	NULL	NULL	NULL	NULL	NULL	NULL

Post Job Log



54
55
56
57
58 • `select * from productcosthistoryscd;`
59
60
61
62 • `select * from etl_job_log;`
63

Limit to 1000 rows

Result Grid

	job_log_id	job_id	job_name	job_status	created_by	created_date
▶	1	1	Load_Product_Cost_History	Running	muska	2023-10-29
	2	2	Load_Product_Price_History_SCD	Running	muska	2023-10-29
	3	1	Load_Product_Cost_History	Completed	muska	2023-10-29
	4	2	Load_Product_Price_History_SCD	Completed	muska	2023-10-29
*	NULL	NULL	NULL	NULL	NULL	NULL

3. Screenshot of main job run after completion in talend

Main Orchestration

