
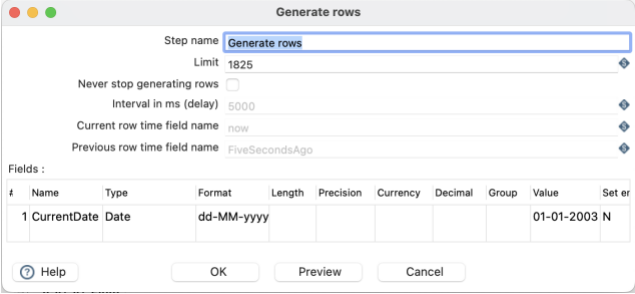
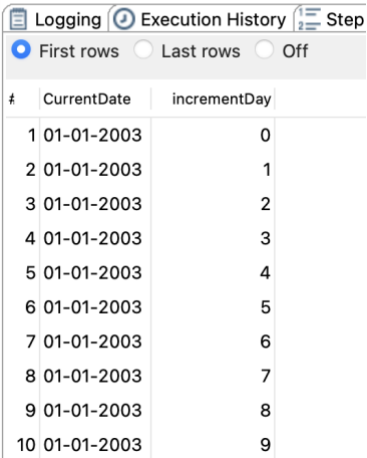


## Tugas 1

1. Buka preview tab pada execution result area di setiap proses object. amati input dan output data yang ada. bandingkan di setiap prosesnya. jelaskan perbedaan di setiap prosesnya.

Proses Objek	SS Data Input	SS Data Output	Keterangan
Generate Rows	Tidak ada karena tahapan awal	<b>Execution Results</b> 	<ul style="list-style-type: none"> <li>• <b>Output Data:</b> Menghasilkan sejumlah baris sesuai dengan limit yang ditentukan (misalnya 1825 untuk 5 tahun).</li> <li>• <b>Perbedaan:</b> Tahap ini hanya membuat baris kosong yang nantinya akan diisi data.</li> </ul>
Add Sequences		<b>Execution Results</b> 	<ul style="list-style-type: none"> <li>• <b>Input Data:</b> Data kosong dari Generate Rows.</li> <li>• <b>Output Data:</b> Menambahkan kolom sequence (id_dimDate) yang berisi angka bertambah mulai dari 1 hingga jumlah baris yang dihasilkan.</li> <li>• <b>Perbedaan:</b> Sekarang setiap baris memiliki ID unik yang dapat digunakan sebagai primary key.</li> </ul>

Calculator

Step name

Add sequence

Name of value

incrementDay

Use a database to generate the sequence

Use DB to get sequence?

☐

Connection

icomm\_dw\_destination

Edit...

New...

Wizard...

Schema name

Schemas...

Sequence name

SEQ\_

Sequences...

Use a transformation counter to generate the sequence

Use counter to calculate sequence?

☒

Counter name (optional)

Start at value

0

Increment by

1

Maximum value

999999999

Help

OK

Cancel

Execution Results

Logging

Execution History

Step Metrics

Performance Graph

Metrics

Previ

First rows

Last rows

Off

#	CurrentDate	incrementDay	streamDate	streamYear	streamMonth	streamDay
1	01-01-2003	0	2003/01/01 00:00:00.00	2003	1	1
2	01-01-2003	1	2003/01/02 00:00:00.00	2003	1	2
3	01-01-2003	2	2003/01/03 00:00:00.00	2003	1	3
4	01-01-2003	3	2003/01/04 00:00:00.00	2003	1	4
5	01-01-2003	4	2003/01/05 00:00:00.00	2003	1	5
6	01-01-2003	5	2003/01/06 00:00:00.00	2003	1	6
7	01-01-2003	6	2003/01/07 00:00:00.00	2003	1	7
8	01-01-2003	7	2003/01/08 00:00:00.00	2003	1	8
9	01-01-2003	8	2003/01/09 00:00:00.00	2003	1	9
10	01-01-2003	9	2003/01/10 00:00:00.00	2003	1	10

Select Values

Fields:

#	New field	Calculation	Field A	Field B	Field C	Value type	Length	Precision	Remove	C
1	streamDate	Date A + B Days	CurrentDate	incrementDay		None			N	
2	streamYear	Year of date A	streamDate			None			N	
3	streamMonth	Month of date A	streamDate			None			N	
4	streamDay	Day of month of date / streamDate	streamDate			None			N	

Execution Results

Logging

Execution History

Step Metrics

Performance

First rows

Last rows

Off

#	streamDate	streamYear	streamMonth	streamDay
1	2003/01/01 00:00:00.00	2003	1	1
2	2003/01/02 00:00:00.00	2003	1	2
3	2003/01/03 00:00:00.00	2003	1	3
4	2003/01/04 00:00:00.00	2003	1	4
5	2003/01/05 00:00:00.00	2003	1	5
6	2003/01/06 00:00:00.00	2003	1	6
7	2003/01/07 00:00:00.00	2003	1	7
8	2003/01/08 00:00:00.00	2003	1	8
9	2003/01/09 00:00:00.00	2003	1	9
10	2003/01/10 00:00:00.00	2003	1	10

• **Input Data:** Data dari Add Sequence, hanya berisi ID.

• **Output Data:** Menambahkan kolom tanggal (CurrentDate) yang dihitung dari tanggal awal (Start Date) dengan penambahan sequence sebagai offset hari.

• **Perbedaan:** Sekarang setiap baris memiliki tanggal yang berbeda, biasanya dimulai dari 01-01-2023.

• **Input Data:** Semua kolom yang dihasilkan oleh Calculator.

• **Output Data:** Hanya kolom yang dipilih, misalnya CurrentDate, Year, Month, dan Day.

• **Perbedaan:** Menghapus kolom yang tidak diperlukan agar output lebih bersih.

## Database Lookup

Step name: **Select values**

Select & Alter Remove Meta-data

Fields:

#	Fieldname	Rename to	Length	Precision
1	CurrentDate			
2	IncrementDay			
3	streamDate			
4	streamYear			
5	streamMonth			
6	streamDay			

Get fields to select Edit Mapping

Include unspecified fields, ordered by nar ☒

Help OK Cancel

## Execution Results

Logging Execution History Step Metrics Performance Graph Metrics Preview data

First rows Last rows Off

#	streamDate	streamYear	streamMonth	streamDay	date	year	month	day
1	2003/01/01 00:00:00.00	2003	1	1	2003/01/01 00:00:00.00	2003	1	1
2	2003/01/02 00:00:00.00	2003	1	2	2003/01/02 00:00:00.00	2003	1	2
3	2003/01/03 00:00:00.00	2003	1	3	2003/01/03 00:00:00.00	2003	1	3
4	2003/01/04 00:00:00.00	2003	1	4	2003/01/04 00:00:00.00	2003	1	4
5	2003/01/05 00:00:00.00	2003	1	5	2003/01/05 00:00:00.00	2003	1	5
6	2003/01/06 00:00:00.00	2003	1	6	2003/01/06 00:00:00.00	2003	1	6
7	2003/01/07 00:00:00.00	2003	1	7	2003/01/07 00:00:00.00	2003	1	7
8	2003/01/08 00:00:00.00	2003	1	8	2003/01/08 00:00:00.00	2003	1	8
9	2003/01/09 00:00:00.00	2003	1	9	2003/01/09 00:00:00.00	2003	1	9
10	2003/01/10 00:00:00.00	2003	1	10	2003/01/10 00:00:00.00	2003	1	10

- **Input Data:** Data dari Select Values.
- **Output Data:** Data yang telah dicek apakah sudah ada di database (dimDate).
- **Perbedaan:** Menambahkan kolom hasil pencocokan dengan database, misalnya ID yang sudah ada.

## Filter Rows

Step name: **Database lookup**

Connection: **conn\_dw\_destination** Edit... New... Wizard...

Lookup schema: **dw\_LegendVehicle** Browse...

Lookup table: **dimDate** Browse...

Enable cache? ☐

Cache size in rows (0=cache everything)

Load all data from table ☒

The key(s) to look up the value(s):

#	Table field	Comparator	Field1	Field2
1	date	=	streamDate	
2	year	=	streamYear	
3	month	=	streamMonth	
4	day	=	streamDay	

Values to return from the lookup table:

#	Field	New name	Default	Type
1	date			None
2	year			None
3	month			None
4	day			None

Do not pass the row if the lookup fails ☒

Fail on multiple results? ☒

Order by

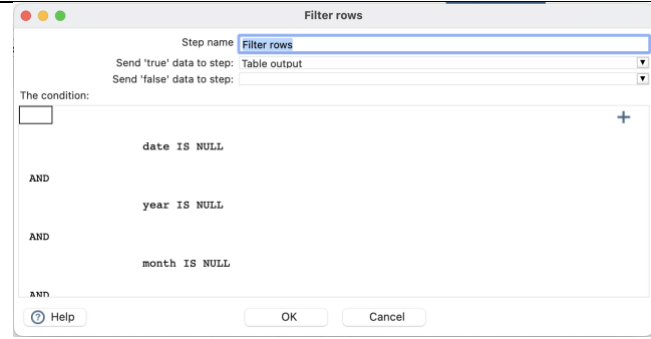
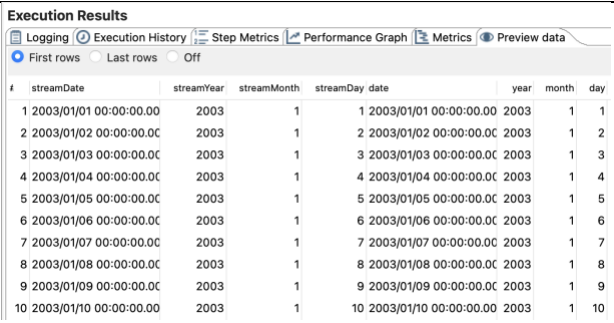
## Execution Results

Logging Execution History Step Metrics Performance Graph Metrics Preview data

First rows Last rows Off

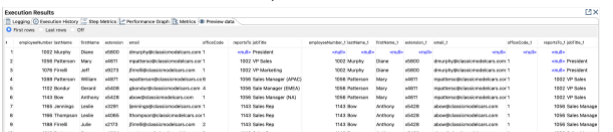
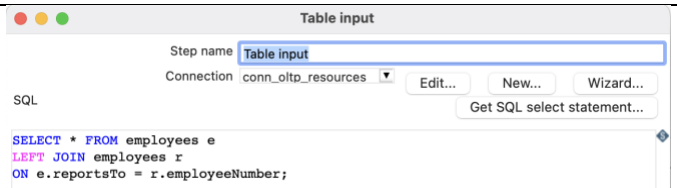
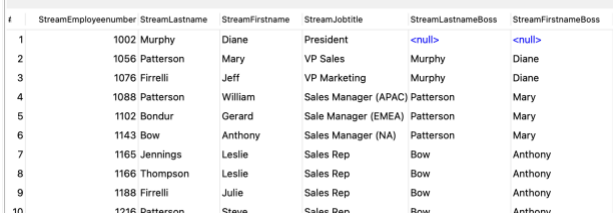
#	streamDate	streamYear	streamMonth	streamDay	date	year	month	day
1	2003/01/01 00:00:00.00	2003	1	1	2003/01/01 00:00:00.00	2003	1	1
2	2003/01/02 00:00:00.00	2003	1	2	2003/01/02 00:00:00.00	2003	1	2
3	2003/01/03 00:00:00.00	2003	1	3	2003/01/03 00:00:00.00	2003	1	3
4	2003/01/04 00:00:00.00	2003	1	4	2003/01/04 00:00:00.00	2003	1	4
5	2003/01/05 00:00:00.00	2003	1	5	2003/01/05 00:00:00.00	2003	1	5
6	2003/01/06 00:00:00.00	2003	1	6	2003/01/06 00:00:00.00	2003	1	6
7	2003/01/07 00:00:00.00	2003	1	7	2003/01/07 00:00:00.00	2003	1	7
8	2003/01/08 00:00:00.00	2003	1	8	2003/01/08 00:00:00.00	2003	1	8
9	2003/01/09 00:00:00.00	2003	1	9	2003/01/09 00:00:00.00	2003	1	9
10	2003/01/10 00:00:00.00	2003	1	10	2003/01/10 00:00:00.00	2003	1	10

- **Input Data:** Data dari Database Lookup.
- **Output Data:** Hanya menyimpan data yang belum ada dalam tabel dimDate untuk menghindari duplikasi.
- **Perbedaan:** Menghapus baris yang sudah ada dalam database.

Table Output			<ul style="list-style-type: none"> <li>• <b>Input Data:</b> Data yang lolos filter (belum ada dalam database).</li> <li>• <b>Output Data:</b> Data ditulis ke tabel dimDate dalam MySQL.</li> <li>• <b>Perbedaan:</b> Data sudah tersimpan dalam database dan bisa diakses melalui phpMyAdmin.</li> </ul>
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## Tugas 2

1. Buka preview tab pada execution result area di setiap proses object. amati input dan output data yang ada. bandingkan di setiap prosesnya. jelaskan perbedaan disetiap prosesnya.

Proses Objek	SS Data Input	SS Data Output	Keterangan
Table Input	Data mentah dari sumber OLTP (MySQL)		Mengambil data langsung dari database sumber
Select Values		Data dengan perubahan nama kolom atau pemilihan kolom tertentu 	Memilih kolom yang dibutuhkan dan mengganti nama field

Database  
Lookup

Step name

Select values

Select & Alter

Remove

Meta-data

Fields :

#	Fieldname	Rename to	Length	Precision
1	employeeNumber	StreamEmployeeNumber		
2	lastName	StreamLastname		
3	firstName	StreamFirstname		
4	extension			
5	email			
6	officeCode			
7	reportsTo			
8	jobTitle	StreamJobtitle		
9	employeeNumber_1			
10	lastName_1	StreamLastnameBoss		
11	firstName_1	StreamFirstnameBoss		
12	extension_1			
13	email_1			
14	officeCode_1			
15	reportsTo_1			
16	jobTitle_1			

Get fields to select

Edit Mapping

Include unspecified fields, ordered by nar

Step name

Select values

Select & Alter

Remove

Meta-data

Fields to remove :

#	Fieldname
1	extension
2	email
3	officeCode
4	reportsTo
5	employeeNumber_1
6	extension_1
7	email_1
8	officeCode_1
9	reportsTo_1
10	jobTitle_1

Get fields to remove

Data dengan tambahan informasi dari table lain

Execution Results

LoggingExecution HistoryStep MetricsPerformance GraphMetricsPrevious data

First rows

Last rows

OFF

#	StreamEmployeeNumber	StreamLastname	StreamFirstname	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	lastName	jobTitle	last_name	first_name
1	1002	Murphy	Diane	President	Orlando	1006	Mary	VP Sales	Orlando	Orlando
2	1006	Patterson	Mary	VP Sales	Murphy	1006	Mary	Patterson	VP Sales	Diane
3	1016	Finnell	Jeff	VP Marketing	Murphy	1016	Jeff	Finnell	VP Marketing	Diane
4	1006	Patterson	William	Sales Manager (SMA)	Patterson	1006	William	Patterson	Sales Manager (SMA)	Mary
5	1102	Bondur	Gerard	Sales Manager (SMA)	Patterson	1102	Gerard	Bondur	Sales Manager (SMA)	Mary
6	1143	Bow	Anthony	Sales Manager (SMA)	Patterson	1143	Anthony	Bow	Sales Manager (SMA)	Mary
7	1186	Jennings	Leslie	Sales Rep	Bow	1186	Leslie	Jennings	Sales Rep	Anthony
8	1186	Thompson	Leslie	Sales Rep	Bow	1186	Leslie	Thompson	Sales Rep	Anthony
9	1188	Finnell	Julie	Sales Rep	Bow	1188	Julie	Finnell	Sales Rep	Anthony
10	1216	Patterson	Steve	Sales Rep	Bow	1216	Steve	Patterson	Sales Rep	Anthony

Melakukan lookup data dari tabel referensi (misalnya, mencari nama atasan dari reportsTo).

Filter Rows

Database lookup

Step name

Database lookup

Connection

conn\_dw\_destination

Edit...

New...

Wizard...

Lookup schema

dw\_LegendVehicle

Browse...

Lookup table

dimEmployees

Browse...

Enable cache?

☐

Cache size in rows (0=cache everything)

0

Load all data from table

☐

The key(s) to look up the value(s):

#	Table field	Comparator	Field1	Field2
1	employeeNumber	=	StreamEmployeeNumber	
2	firstName	=	StreamFirstName	
3	lastName	=	StreamLastName	
4	jobTitle	=	StreamJobTitle	
5	boss_firstName	=	StreamFirstNameBoss	
6	boss_lastName	=	StreamLastNameBoss	

Values to return from the lookup table :

#	Field	New name	Default	Type
1	employeeNumber			Integer
2	firstName			String
3	lastName			String
4	jobTitle			String
5	boss_firstName			String
6	boss_lastName			String

Data yang sudah difilter dengan job tertentu

Execution Results

Logging

Execution History

Step Metrics

Performance Graph

Metrics

Preview Data

First rows

Last rows

Diff

#	StreamEmployeeNumber	StreamLastname	StreamFirstname	StreamJobtitle	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	lastName	jobTitle	boss
1	1002	Murphy	Dane	President	Angeli	Angeli	1002	Angeli	Angeli	President	Angeli
2	1006	Paterson	Mary	VP Sales	Murphy	Dane	1006	Murphy	Angeli	VP Sales	Angeli
3	1009	Franki	Jeff	VP Marketing	Angeli	Dane	1009	Angeli	Angeli	VP Marketing	Angeli
4	1008	Paterson	William	Sales Manager (SMC)	Murphy	Dane	1008	Angeli	Angeli	Sales Manager (SMC)	Angeli
5	1102	Bandur	General	Sales Manager (SMC)	Paterson	Mary	1102	Angeli	Angeli	General	Angeli
6	1143	Bow	Anthony	Sales Manager (SM)	Paterson	Mary	1143	Angeli	Angeli	Sales Manager (SM)	Angeli
7	1103	Arneberg	Leslie	Sales Rep	Bow	Anthony	1103	Angeli	Angeli	Sales Rep	Angeli
8	1106	Thompson	Leslie	Sales Rep	Bow	Anthony	1106	Angeli	Angeli	Sales Rep	Angeli
9	1108	Franki	John	Sales Rep	Bow	Anthony	1108	Angeli	Angeli	Sales Rep	Angeli
10	1216	Paterson	Dane	Sales Rep	Bow	Anthony	1216	Angeli	Angeli	Sales Rep	Angeli
11	1206	Tang	George	Sales Rep	Bow	Anthony	1206	Angeli	Angeli	Sales Rep	Angeli
12	1213	Vanard	George	Sales Rep	Bow	Anthony	1213	Angeli	Angeli	Sales Rep	Angeli
13	1337	Bandur	General	Sales Rep	Bandur	General	1337	Angeli	Angeli	General	Angeli
14	1310	Arneberg	General	Sales Rep	Bandur	General	1310	Angeli	Angeli	General	Angeli
15	1401	Castillo	Penelope	Sales Rep	Bandur	General	1401	Angeli	Angeli	Sales Rep	Angeli
16	1501	Bow	Larry	Sales Rep	Bandur	General	1501	Angeli	Angeli	Sales Rep	Angeli
17	1504	Jones	Barry	Sales Rep	Bandur	General	1504	Angeli	Angeli	Sales Rep	Angeli
18	1611	Franki	Andy	Sales Rep	William	William	1611	Angeli	Angeli	Sales Rep	Angeli
19	1619	King	Peter	Sales Rep	William	William	1619	Angeli	Angeli	Sales Rep	Angeli
20	1621	Nishi	Mami	Sales Rep	Angeli	Mami	1621	Angeli	Angeli	Sales Rep	Angeli
21	1625	Kato	Yoshimi	Sales Rep	Nishi	Mami	1625	Angeli	Angeli	Sales Rep	Angeli
22	1702	General	Martin	Sales Rep	Bandur	General	1702	Angeli	Angeli	General	Angeli

Memfilter data berdasarkan kondisi tertentu

Filter rows

Step name

Filter rows

Send 'true' data to step:

Table output

Send 'false' data to step:

The condition:

☐

+

employeeNumber IS NULL

AND

firstName IS NULL

AND

lastName IS NULL

AND

Table Output

Execution Results

Logging

Execution History

Step Metrics

Performance Graph

Metrics

Preview Data

First rows

Last rows

Diff

#	StreamEmployeeNumber	StreamLastname	StreamFirstname	StreamJobtitle	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	lastName	jobTitle	boss
1	1002	Murphy	Dane	President	Angeli	Angeli	1002	Angeli	Angeli	President	Angeli
2	1006	Paterson	Mary	VP Sales	Murphy	Dane	1006	Angeli	Angeli	VP Sales	Angeli
3	1009	Franki	Jeff	VP Marketing	Angeli	Dane	1009	Angeli	Angeli	VP Marketing	Angeli
4	1008	Paterson	William	Sales Manager (SMC)	Paterson	Mary	1008	Angeli	Angeli	Sales Manager (SMC)	Angeli
5	1102	Bandur	General	Sales Manager (SMC)	Paterson	Mary	1102	Angeli	Angeli	General	Angeli
6	1143	Bow	Anthony	Sales Manager (SM)	Paterson	Mary	1143	Angeli	Angeli	Sales Manager (SM)	Angeli
7	1103	Arneberg	Leslie	Sales Rep	Bow	Anthony	1103	Angeli	Angeli	Sales Rep	Angeli
8	1106	Thompson	Leslie	Sales Rep	Bow	Anthony	1106	Angeli	Angeli	Sales Rep	Angeli
9	1108	Franki	John	Sales Rep	Bow	Anthony	1108	Angeli	Angeli	Sales Rep	Angeli
10	1216	Paterson	Dane	Sales Rep	Bow	Anthony	1216	Angeli	Angeli	Sales Rep	Angeli
11	1206	Tang	George	Sales Rep	Bow	Anthony	1206	Angeli	Angeli	Sales Rep	Angeli
12	1213	Vanard	George	Sales Rep	Bow	Anthony	1213	Angeli	Angeli	Sales Rep	Angeli
13	1337	Bandur	General	Sales Rep	Bandur	General	1337	Angeli	Angeli	General	Angeli
14	1310	Arneberg	General	Sales Rep	Bandur	General	1310	Angeli	Angeli	General	Angeli
15	1401	Castillo	Penelope	Sales Rep	Bandur	General	1401	Angeli	Angeli	Sales Rep	Angeli
16	1501	Bow	Larry	Sales Rep	Bandur	General	1501	Angeli	Angeli	Sales Rep	Angeli
17	1504	Jones	Barry	Sales Rep	Bandur	General	1504	Angeli	Angeli	Sales Rep	Angeli
18	1611	Franki	Andy	Sales Rep	Paterson	William	1611	Angeli	Angeli	Sales Rep	Angeli
19	1619	King	Peter	Sales Rep	Paterson	William	1619	Angeli	Angeli	Sales Rep	Angeli
20	1621	Nishi	Mami	Sales Rep	Paterson	Mary	1621	Angeli	Angeli	Sales Rep	Angeli
21	1625	Kato	Yoshimi	Sales Rep	Nishi	Mami	1625	Angeli	Angeli	Sales Rep	Angeli
22	1702	General	Martin	Sales Rep	Bandur	General	1702	Angeli	Angeli	General	Angeli

Data yang masuk ke table tujuan

Execution Results

Logging

Execution History

Step Metrics

Performance Graph

Metrics

Preview Data

First rows

Last rows

Diff

#	StreamEmployeeNumber	StreamLastname	StreamFirstname	StreamJobtitle	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	lastName	jobTitle	boss
1	1002	Murphy	Dane	President	Angeli	Angeli	1002	Dane	Murphy	President	Angeli
2	1006	Paterson	Mary	VP Sales	Murphy	Dane	1006	Dane	Paterson	VP Sales	Angeli
3	1009	Franki	Jeff	VP Marketing	Angeli	Dane	1009	Jeff	Franki	VP Marketing	Angeli
4	1008	Paterson	William	Sales Manager (SMC)	Paterson	Mary	1008	William	Paterson	Sales Manager (SMC)	Angeli
5	1102	Bandur	General	Sales Manager (SMC)	Paterson	Mary	1102	General	Bandur	Sales Manager (SMC)	Angeli
6	1143	Bow	Anthony	Sales Manager (SM)	Paterson	Mary	1143	Anthony	Bow	Sales Manager (SM)	Angeli
7	1103	Arneberg	Leslie	Sales Rep	Bow	Anthony	1103	Leslie	Arneberg	Sales Rep	Angeli
8	1106	Thompson	Leslie	Sales Rep	Bow	Anthony	1106	Leslie	Thompson	Sales Rep	Angeli
9	1108	Franki	John	Sales Rep	Bow	Anthony	1108	John	Franki	Sales Rep	Angeli
10	1216	Paterson	Dane	Sales Rep	Bow	Anthony	1216	Dane	Paterson	Sales Rep	Angeli
11	1206	Tang	George	Sales Rep	Bow	Anthony	1206	George	Tang	Sales Rep	Angeli
12	1213	Vanard	George	Sales Rep	Bow	Anthony	1213	George	Vanard	Sales Rep	Angeli
13	1337	Bandur	General	Sales Rep	Bandur	General	1337	General	Bandur	Sales Rep	Angeli
14	1310	Arneberg	General	Sales Rep	Bandur	General	1310	General	Arneberg	Sales Rep	Angeli
15	1401	Castillo	Penelope	Sales Rep	Bandur	General	1401	Penelope	Castillo	Sales Rep	Angeli
16	1501	Bow	Larry	Sales Rep	Bandur	General	1501	Larry	Bow	Sales Rep	Angeli
17	1504	Jones	Barry	Sales Rep	Bandur	General	1504	Barry	Jones	Sales Rep	Angeli
18	1611	Franki	Andy	Sales Rep	Paterson	William	1611	Andy	Franki	Sales Rep	Angeli
19	1619	King	Peter	Sales Rep	Paterson	William	1619	Peter	King	Sales Rep	Angeli
20	1621	Nishi	Mami	Sales Rep	Paterson	Mary	1621	Mami	Nishi	Sales Rep	Angeli
21	1625	Kato	Yoshimi	Sales Rep	Nishi	Mami	1625	Yoshimi	Kato	Sales Rep	Angeli
22	1702	General	Martin	Sales Rep	Bandur	General	1702	Dane	Murphy	President	Angeli

Menyimpan hasil transformasi ke database dw\_legendvehicle

Execution Results

Logging

Execution History

Step Metrics

Performance Graph

Metrics

Preview Data

First rows

Last rows

Diff

#	StreamEmployeeNumber	StreamLastname	StreamFirstname	StreamJobtitle	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	lastName	jobTitle	boss
1	1002	Murphy	Dane	President	Angeli	Angeli	1002	Dane	Murphy	President	Angeli
2	1006	Paterson	Mary	VP Sales	Murphy	Dane	1006	Dane	Paterson	VP Sales	Angeli
3	1009	Franki	Jeff	VP Marketing	Angeli	Dane	1009	Jeff	Franki	VP Marketing	Angeli
4	1008	Paterson	William	Sales Manager (SMC)	Paterson	Mary	1008	William	Paterson	Sales Manager (SMC)	Angeli
5	1102	Bandur	General	Sales Manager (SMC)	Paterson	Mary	1102	General	Bandur	Sales Manager (SMC)	Angeli
6	1143	Bow	Anthony	Sales Manager (SM)	Paterson	Mary	1143	Anthony	Bow	Sales Manager (SM)	Angeli
7	1103	Arneberg	Leslie	Sales Rep	Bow	Anthony	1103	Leslie	Arneberg	Sales Rep	Angeli
8	1106	Thompson	Leslie	Sales Rep	Bow	Anthony	1106	Leslie	Thompson	Sales Rep	Angeli
9	1108	Franki	John	Sales Rep	Bow	Anthony	1108	John	Franki	Sales Rep	Angeli
10	1216	Paterson	Dane	Sales Rep	Bow	Anthony	1216	Dane	Paterson	Sales Rep	Angeli
11	1206	Tang	George	Sales Rep	Bow	Anthony	1206	George	Tang	Sales Rep	Angeli
12	1213	Vanard	George	Sales Rep	Bow	Anthony	1213	George	Vanard	Sales Rep	Angeli
13	1337	Bandur	General	Sales Rep	Bandur	General	1337	General	Bandur	Sales Rep	Angeli
14	1310	Arneberg	General	Sales Rep	Bandur	General	1310	General	Arneberg	Sales Rep	Angeli
15	1401	Castillo	Penelope	Sales Rep	Bandur	General	1401	Penelope	Castillo	Sales Rep	Angeli
16	1501	Bow	Larry	Sales Rep	Bandur	General	1501	Larry	Bow	Sales Rep	Angeli
17	1504	Jones	Barry	Sales Rep	Bandur	General	1504	Barry	Jones	Sales Rep	Angeli
18	1611	Franki	Andy	Sales Rep	Paterson	William	1611	Andy	Franki	Sales Rep	Angeli
19	1619	King	Peter	Sales Rep	Paterson	William	1619	Peter	King	Sales Rep	Angeli
20	1621	Nishi	Mami	Sales Rep	Paterson	Mary	1621	Mami	Nishi	Sales Rep	Angeli
21	1625	Kato	Yoshimi	Sales Rep	Nishi	Mami	1625	Yoshimi	Kato	Sales Rep	Angeli
22	1702	General	Martin	Sales Rep	Bandur	General	1702	Dane	Murphy	President	Angeli

2. Jika proses itu di ulangi ( di run kembali ) apakah data akan redundant?

Jawaban :

Ya, bisa redundant jika tidak ada mekanisme untuk menghindari duplikasi data. Jika Table Output langsung menambahkan data tanpa validasi, maka setiap kali transformasi dijalankan, data yang sama akan tersimpan berulang kali. Ini ada solusi untuk menghindari redundansi :

- Gunakan truncate sebelum insert jika hanya ingin data terbaru.
- Terapkan primary key atau unique constraint di tabel tujuan. (biar tidak ada yang sama)

- Gunakan "Insert/Update" daripada langsung "Table Output" untuk mencegah duplikasi.
3. Tambahkan nama anda pada table employee di OLTP. jalankan kembali transformasi ini. Amati hasilnya, apa yang terjadi?

Jawaban :

Pada database classicmodels saya menambahkan data diri saya

```
✓ 1 row inserted. (Query took 0.0010 seconds.)  
  
INSERT INTO employees(employeeNumber, lastName, firstName, extension, email, officeCode, reportsTo, jobTitle) VALUES (1202,'Rama','Fallujah','x9001','fallujah@classicmodelcars.com', 1, 1002,'Data Scientist');
```

Hasil di database classicmodels:

1 > >> | ☐ Show all | Number of rows: 25 | Filter rows: rama | Sort by key: None

Extra options

		employeeNumber	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
<input type="checkbox"/>	Edit  Copy  Delete	1202	Rama	Fallujah	x9001	fallujah@classicmodelcars.com	1	1002	Data Scientist
<input type="checkbox"/>	Edit  Copy  Delete	1551	Rama	Fallujah	x9001	fallujah@classicmodelcars.com	1	1002	Data Analyst