

# DATA WAREHOUSE

## Jobsheet 3

Khuzaima Filla Januartha  
2341760078

### A. Dimensi Waktu

#### Output:



	id_dimDate	full_date	year	month	day
<input type="checkbox"/> Edit Copy Delete	1	2003-01-01	2003	1	1
<input type="checkbox"/> Edit Copy Delete	2	2003-01-02	2003	1	2
<input type="checkbox"/> Edit Copy Delete	3	2003-01-03	2003	1	3
<input type="checkbox"/> Edit Copy Delete	4	2003-01-04	2003	1	4
<input type="checkbox"/> Edit Copy Delete	5	2003-01-05	2003	1	5
<input type="checkbox"/> Edit Copy Delete	6	2003-01-06	2003	1	6
<input type="checkbox"/> Edit Copy Delete	7	2003-01-07	2003	1	7
<input type="checkbox"/> Edit Copy Delete	8	2003-01-08	2003	1	8

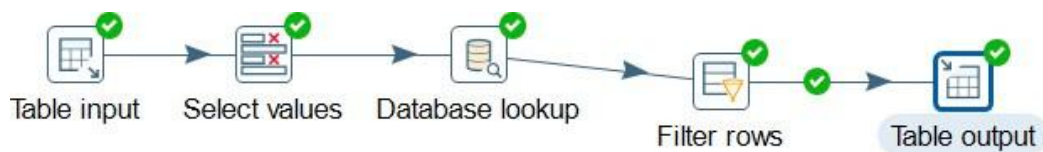
### Tugas 1

Object	input	output	Keterangan																																																																			
Generate rows		<table><thead><tr><th>#</th><th>CurrentDate</th></tr></thead><tbody><tr><td>1</td><td>01-01-2003</td></tr><tr><td>2</td><td>01-01-2003</td></tr><tr><td>3</td><td>01-01-2003</td></tr><tr><td>4</td><td>01-01-2003</td></tr></tbody></table>	#	CurrentDate	1	01-01-2003	2	01-01-2003	3	01-01-2003	4	01-01-2003	Meng generate data ber value “01-01-2003”																																																									
#	CurrentDate																																																																					
1	01-01-2003																																																																					
2	01-01-2003																																																																					
3	01-01-2003																																																																					
4	01-01-2003																																																																					
Add sequence		<table><thead><tr><th>#</th><th>CurrentDate</th><th>incrementDay</th></tr></thead><tbody><tr><td>1</td><td>01-01-2003</td><td>0</td></tr><tr><td>2</td><td>01-01-2003</td><td>1</td></tr><tr><td>3</td><td>01-01-2003</td><td>2</td></tr><tr><td>4</td><td>01-01-2003</td><td>3</td></tr><tr><td>5</td><td>01-01-2003</td><td>4</td></tr></tbody></table>	#	CurrentDate	incrementDay	1	01-01-2003	0	2	01-01-2003	1	3	01-01-2003	2	4	01-01-2003	3	5	01-01-2003	4	Memberikan increment day dari 0-1825 sesuai dengan yang di generate																																																	
#	CurrentDate	incrementDay																																																																				
1	01-01-2003	0																																																																				
2	01-01-2003	1																																																																				
3	01-01-2003	2																																																																				
4	01-01-2003	3																																																																				
5	01-01-2003	4																																																																				
Calculator	<table><thead><tr><th>#</th><th>New field</th><th>Calculation</th><th>Field A</th><th>Field B</th></tr></thead><tbody><tr><td>1</td><td>streamDate</td><td>Date A + B Days</td><td>CurrentDate</td><td>incrementDay</td></tr><tr><td>2</td><td>streamYear</td><td>Year of date A</td><td>streamDate</td><td></td></tr><tr><td>3</td><td>streamMonth</td><td>Month of date A</td><td>streamDate</td><td></td></tr><tr><td>4</td><td>streamDay</td><td>Day of month of date A</td><td>streamDate</td><td></td></tr></tbody></table>	#	New field	Calculation	Field A	Field B	1	streamDate	Date A + B Days	CurrentDate	incrementDay	2	streamYear	Year of date A	streamDate		3	streamMonth	Month of date A	streamDate		4	streamDay	Day of month of date A	streamDate		<table><thead><tr><th>#</th><th>CurrentDate</th><th>incrementDay</th><th>streamDate</th><th>streamYear</th><th>streamMonth</th><th>streamDay</th></tr></thead><tbody><tr><td>1</td><td>01-01-2003</td><td>0</td><td>2003/01/01 00:00:00.000</td><td>2003</td><td>1</td><td>1</td></tr><tr><td>2</td><td>01-01-2003</td><td>1</td><td>2003/01/02 00:00:00.000</td><td>2003</td><td>1</td><td>2</td></tr><tr><td>3</td><td>01-01-2003</td><td>2</td><td>2003/01/03 00:00:00.000</td><td>2003</td><td>1</td><td>3</td></tr><tr><td>4</td><td>01-01-2003</td><td>3</td><td>2003/01/04 00:00:00.000</td><td>2003</td><td>1</td><td>4</td></tr><tr><td>5</td><td>01-01-2003</td><td>4</td><td>2003/01/05 00:00:00.000</td><td>2003</td><td>1</td><td>5</td></tr></tbody></table>	#	CurrentDate	incrementDay	streamDate	streamYear	streamMonth	streamDay	1	01-01-2003	0	2003/01/01 00:00:00.000	2003	1	1	2	01-01-2003	1	2003/01/02 00:00:00.000	2003	1	2	3	01-01-2003	2	2003/01/03 00:00:00.000	2003	1	3	4	01-01-2003	3	2003/01/04 00:00:00.000	2003	1	4	5	01-01-2003	4	2003/01/05 00:00:00.000	2003	1	5	Memberikan hari bulan dan tahun sesuai dengan increment day nya
#	New field	Calculation	Field A	Field B																																																																		
1	streamDate	Date A + B Days	CurrentDate	incrementDay																																																																		
2	streamYear	Year of date A	streamDate																																																																			
3	streamMonth	Month of date A	streamDate																																																																			
4	streamDay	Day of month of date A	streamDate																																																																			
#	CurrentDate	incrementDay	streamDate	streamYear	streamMonth	streamDay																																																																
1	01-01-2003	0	2003/01/01 00:00:00.000	2003	1	1																																																																
2	01-01-2003	1	2003/01/02 00:00:00.000	2003	1	2																																																																
3	01-01-2003	2	2003/01/03 00:00:00.000	2003	1	3																																																																
4	01-01-2003	3	2003/01/04 00:00:00.000	2003	1	4																																																																
5	01-01-2003	4	2003/01/05 00:00:00.000	2003	1	5																																																																

<b>Select values</b>	<div> <div> # 1 2 3 4 5 6 </div> <div> Fieldname CurrentDate incrementDay streamDate streamYear streamMonth streamDay </div> <div> Fields to remove : # 1 2 </div> <div> Fieldname CurrentDate incrementDay </div> </div>	<div> # 1 2 3 4 </div> <div> streamDate 2003/01/01 00:00:00.000 2003/01/02 00:00:00.000 2003/01/03 00:00:00.000 2003/01/04 00:00:00.000 </div> <div> streamYear 2003 2003 2003 2003 </div> <div> streamMonth 1 1 1 1 </div> <div> streamDay 1 2 3 4 </div>
----------------------	---	--

## B. Dimensi Pegawai

### OUTPUT:



## Tugas 2

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.

Object	input	output	Keterangan
<b>Table input</b>	<pre> select * from employees e left join employees r ON e.reportsTo=r.employeeNumber; </pre>	<div> employeeNumber 1002 1056 1076 1088 1102 1143 1165 1166 </div> <div> lastName Murphy Patterson Firrelli Patterson Bondur Bow Jennings Thompson </div> <div> firstName Diane Mary Jeff William Gerard Anthony Leslie Leslie </div>	Meng ekspor data dari table lain

<div>Select Values</div>	<div><table><tr><th>#</th><th>Fieldname</th><th>Rename to</th></tr><tr><td>1</td><td>employeeNumber</td><td>StreamEmployeeNumber</td></tr><tr><td>2</td><td>lastName</td><td>StreamLastname</td></tr><tr><td>3</td><td>firstName</td><td>StreamFirstname</td></tr><tr><td>4</td><td>extension</td><td></td></tr><tr><td>5</td><td>email</td><td></td></tr><tr><td>6</td><td>officeCode</td><td></td></tr><tr><td>7</td><td>reportsTo</td><td></td></tr><tr><td>8</td><td>jobTitle</td><td>StreamJobtitle</td></tr><tr><td>9</td><td>employeeNumber_1</td><td></td></tr><tr><td>1..</td><td>lastName_1</td><td>StreamLastnameBoss</td></tr><tr><td>1..</td><td>firstName_1</td><td>StreamFirstnameBoss</td></tr><tr><td>1..</td><td>extension_1</td><td></td></tr><tr><td>1..</td><td>email_1</td><td></td></tr><tr><td>1..</td><td>officeCode_1</td><td></td></tr><tr><td>1..</td><td>reportsTo_1</td><td></td></tr><tr><td>1..</td><td>jobTitle_1</td><td></td></tr></table></div>	#	Fieldname	Rename to	1	employeeNumber	StreamEmployeeNumber	2	lastName	StreamLastname	3	firstName	StreamFirstname	4	extension		5	email		6	officeCode		7	reportsTo		8	jobTitle	StreamJobtitle	9	employeeNumber_1		1..	lastName_1	StreamLastnameBoss	1..	firstName_1	StreamFirstnameBoss	1..	extension_1		1..	email_1		1..	officeCode_1		1..	reportsTo_1		1..	jobTitle_1		<div><table><tr><th>#</th><th>StreamEmployeeNumber</th><th>StreamLastname</th></tr><tr><td>1</td><td>1002</td><td>Murphy</td></tr><tr><td>2</td><td>1056</td><td>Patterson</td></tr><tr><td>3</td><td>1076</td><td>Firrelli</td></tr><tr><td>4</td><td>1088</td><td>Patterson</td></tr><tr><td>5</td><td>1102</td><td>Bondur</td></tr><tr><td>6</td><td>1143</td><td>Bow</td></tr><tr><td>7</td><td>1165</td><td>Jennings</td></tr><tr><td>8</td><td>1166</td><td>Thompson</td></tr><tr><td>9</td><td>1188</td><td>Firrelli</td></tr></table></div>	#	StreamEmployeeNumber	StreamLastname	1	1002	Murphy	2	1056	Patterson	3	1076	Firrelli	4	1088	Patterson	5	1102	Bondur	6	1143	Bow	7	1165	Jennings	8	1166	Thompson	9	1188	Firrelli	<div>Memilih data terpilih dari table lain dan merubah nama menjadi “Stream ...”</div>																		
#	Fieldname	Rename to																																																																																																				
1	employeeNumber	StreamEmployeeNumber																																																																																																				
2	lastName	StreamLastname																																																																																																				
3	firstName	StreamFirstname																																																																																																				
4	extension																																																																																																					
5	email																																																																																																					
6	officeCode																																																																																																					
7	reportsTo																																																																																																					
8	jobTitle	StreamJobtitle																																																																																																				
9	employeeNumber_1																																																																																																					
1..	lastName_1	StreamLastnameBoss																																																																																																				
1..	firstName_1	StreamFirstnameBoss																																																																																																				
1..	extension_1																																																																																																					
1..	email_1																																																																																																					
1..	officeCode_1																																																																																																					
1..	reportsTo_1																																																																																																					
1..	jobTitle_1																																																																																																					
#	StreamEmployeeNumber	StreamLastname																																																																																																				
1	1002	Murphy																																																																																																				
2	1056	Patterson																																																																																																				
3	1076	Firrelli																																																																																																				
4	1088	Patterson																																																																																																				
5	1102	Bondur																																																																																																				
6	1143	Bow																																																																																																				
7	1165	Jennings																																																																																																				
8	1166	Thompson																																																																																																				
9	1188	Firrelli																																																																																																				
<div>Database lookup</div>	<div><table><tr><th>#</th><th>Table field</th><th>Comparator</th><th>Field1</th></tr><tr><td>1</td><td>employeeNumber</td><td>=</td><td>StreamEmployeeNumber</td></tr><tr><td>2</td><td>firstName</td><td>=</td><td>Streamfirstname</td></tr><tr><td>3</td><td>lastName</td><td>=</td><td>StreamLastname</td></tr><tr><td>4</td><td>jobTitle</td><td>=</td><td>StreamJobtitle</td></tr><tr><td>5</td><td>boss_firstName</td><td>=</td><td>StreamFirstnameBoss</td></tr><tr><td>6</td><td>boss_lastName</td><td>=</td><td>StreamLastnameBoss</td></tr></table><div>Values to return from the lookup table :</div><table><tr><th>#</th><th>Field</th><th>New name</th><th>Default</th><th>Type</th></tr><tr><td>1</td><td>employeeNumber</td><td></td><td></td><td>Integer</td></tr><tr><td>2</td><td>firstName</td><td></td><td></td><td>String</td></tr><tr><td>3</td><td>lastName</td><td></td><td></td><td>String</td></tr><tr><td>4</td><td>jobTitle</td><td></td><td></td><td>String</td></tr><tr><td>5</td><td>boss_firstName</td><td></td><td></td><td>String</td></tr><tr><td>6</td><td>boss_lastName</td><td></td><td></td><td>String</td></tr></table></div>	#	Table field	Comparator	Field1	1	employeeNumber	=	StreamEmployeeNumber	2	firstName	=	Streamfirstname	3	lastName	=	StreamLastname	4	jobTitle	=	StreamJobtitle	5	boss_firstName	=	StreamFirstnameBoss	6	boss_lastName	=	StreamLastnameBoss	#	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	<div><table><tr><th>StreamLastnameBoss</th><th>StreamFirstnameBoss</th><th>employeeNumber</th><th>firstName</th></tr><tr><td>&lt;null&gt;</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Murphy</td><td>Diane</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Murphy</td><td>Diane</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Bow</td><td>Anthony</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Bow</td><td>Anthony</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr></table></div>	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	<null>	<null>	<null>	<null>	Murphy	Diane	<null>	<null>	Murphy	Diane	<null>	<null>	Patterson	Mary	<null>	<null>	Patterson	Mary	<null>	<null>	Patterson	Mary	<null>	<null>	Bow	Anthony	<null>	<null>	Bow	Anthony	<null>	<null>	<div>Menampilkan isi table employees dan table dimeployees</div>
#	Table field	Comparator	Field1																																																																																																			
1	employeeNumber	=	StreamEmployeeNumber																																																																																																			
2	firstName	=	Streamfirstname																																																																																																			
3	lastName	=	StreamLastname																																																																																																			
4	jobTitle	=	StreamJobtitle																																																																																																			
5	boss_firstName	=	StreamFirstnameBoss																																																																																																			
6	boss_lastName	=	StreamLastnameBoss																																																																																																			
#	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																																																																																																		
StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName																																																																																																			
<null>	<null>	<null>	<null>																																																																																																			
Murphy	Diane	<null>	<null>																																																																																																			
Murphy	Diane	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Bow	Anthony	<null>	<null>																																																																																																			
Bow	Anthony	<null>	<null>																																																																																																			
<div>Filter rows</div>	<div><div>employeeNumber IS NULL</div><div>AND</div><div>(</div><div>AND</div><div>(</div><div>firstName IS NULL</div><div>AND</div><div>(</div><div>lastName IS NULL</div><div>)</div><div>)</div><div>)</div></div>	<div><table><tr><th>StreamLastnameBoss</th><th>StreamFirstnameBoss</th><th>employeeNumber</th><th>firstName</th></tr><tr><td>&lt;null&gt;</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Murphy</td><td>Diane</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Murphy</td><td>Diane</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Bow</td><td>Anthony</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Bow</td><td>Anthony</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr></table></div>	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	<null>	<null>	<null>	<null>	Murphy	Diane	<null>	<null>	Murphy	Diane	<null>	<null>	Patterson	Mary	<null>	<null>	Patterson	Mary	<null>	<null>	Patterson	Mary	<null>	<null>	Bow	Anthony	<null>	<null>	Bow	Anthony	<null>	<null>	<div>Mendeklarasikan bahwa isi dari table dimemployees null untuk diisi value dari table employees</div>																																																															
StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName																																																																																																			
<null>	<null>	<null>	<null>																																																																																																			
Murphy	Diane	<null>	<null>																																																																																																			
Murphy	Diane	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Bow	Anthony	<null>	<null>																																																																																																			
Bow	Anthony	<null>	<null>																																																																																																			
<div>Table output</div>	<div><table><tr><th>#</th><th>Table field</th><th>Stream field</th></tr><tr><td>1</td><td>employeeNumber</td><td>StreamEmployeeNumber</td></tr><tr><td>2</td><td>firstName</td><td>Streamfirstname</td></tr><tr><td>3</td><td>lastName</td><td>StreamLastname</td></tr><tr><td>4</td><td>jobTitle</td><td>StreamJobtitle</td></tr><tr><td>5</td><td>boss_firstName</td><td>StreamFirstnameBoss</td></tr><tr><td>6</td><td>boss_lastName</td><td>StreamLastnameBoss</td></tr></table></div>	#	Table field	Stream field	1	employeeNumber	StreamEmployeeNumber	2	firstName	Streamfirstname	3	lastName	StreamLastname	4	jobTitle	StreamJobtitle	5	boss_firstName	StreamFirstnameBoss	6	boss_lastName	StreamLastnameBoss	<div><table><tr><th>StreamLastnameBoss</th><th>StreamFirstnameBoss</th><th>employeeNumber</th><th>firstName</th></tr><tr><td>&lt;null&gt;</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Murphy</td><td>Diane</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Murphy</td><td>Diane</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Patterson</td><td>Mary</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Bow</td><td>Anthony</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr><tr><td>Bow</td><td>Anthony</td><td>&lt;null&gt;</td><td>&lt;null&gt;</td></tr></table></div>	StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName	<null>	<null>	<null>	<null>	Murphy	Diane	<null>	<null>	Murphy	Diane	<null>	<null>	Patterson	Mary	<null>	<null>	Patterson	Mary	<null>	<null>	Patterson	Mary	<null>	<null>	Bow	Anthony	<null>	<null>	Bow	Anthony	<null>	<null>	<div>Memindahkan atau mengekspor data dari table employees menuju table dimemployees</div>																																										
#	Table field	Stream field																																																																																																				
1	employeeNumber	StreamEmployeeNumber																																																																																																				
2	firstName	Streamfirstname																																																																																																				
3	lastName	StreamLastname																																																																																																				
4	jobTitle	StreamJobtitle																																																																																																				
5	boss_firstName	StreamFirstnameBoss																																																																																																				
6	boss_lastName	StreamLastnameBoss																																																																																																				
StreamLastnameBoss	StreamFirstnameBoss	employeeNumber	firstName																																																																																																			
<null>	<null>	<null>	<null>																																																																																																			
Murphy	Diane	<null>	<null>																																																																																																			
Murphy	Diane	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Patterson	Mary	<null>	<null>																																																																																																			
Bow	Anthony	<null>	<null>																																																																																																			
Bow	Anthony	<null>	<null>																																																																																																			

- Jika proses itu di ulangi ( di run kembali ) apakah data akan redudant?
  - Tidak, karena data sama dan telah ter filter pada filter rows
- Tambahkan nama anda pada table employee di OLTP. jalankan kembali transformasi ini. Amati hasilnya, apa yang terjadi?
  - Data saya masuk juga ke dimemployeee

## C. Fakta Pembayaran

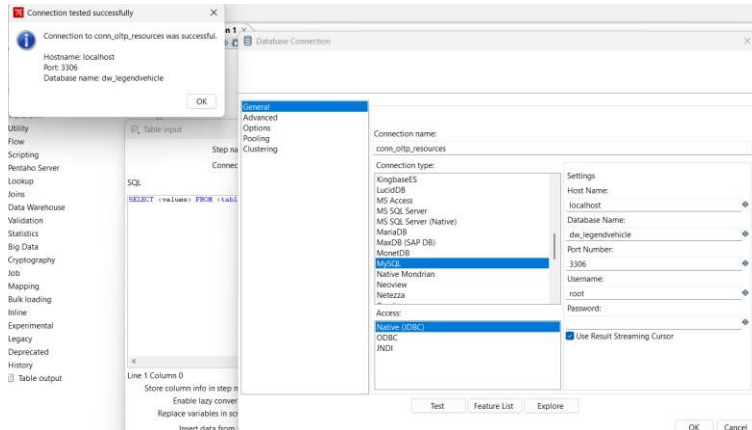
- Buat table FactOmset

```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0455 seconds)

CREATE TABLE FactOmset ( id_dinEmployees INT NOT NULL, id_dinDate INT NOT NULL, amount DECIMAL(10,2) NOT NULL, FOREIGN KEY (id_dinEmployees) REFERENCES dinEmployees(id_dinEmployees), FOREIGN KEY (id_dinDate) REFERENCES dinDate(id_dinDate) );

Edit inline | Edit | Create PHP code
```

- Sambungkan table input dengan database



- Pilih data pada select values dan remove sisanya

#	Fieldname	Rename to
1	employeeNumber	streamEmployeeNumber
2	lastName	streamLastName
3	firstName	streamFirstName
8	jobTitle	streamJobTitle
9	employeeNumber_1	
10	lastName_1	streamLastNameBoss
11	firstName_1	streamFirstNameBoss
32	paymentDate	streamPaymentDate
33	amount	streamAmount

- Masukkan field pada **database lookup 1**

Database lookup

Step name: Database lookup

Connection: conn\_oltp\_resources [Edit...] [New...] [Wizard...]

Lookup schema: dw\_legendvehicle [Browse]

Lookup table: dimemployees [Browse]

Enable cache? ☐

Cache size in rows (0=cache): 0

Load all data from table ☐

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

#	Table field	Comparator	Field1	Field2
2	lastName	=	streamLastName	
3	firstName	=	streamFirstName	
4	jobTitle	=	streamJobTitle	
5	boss_lastName	=	streamLastNameBoss	
6	boss_firstName	=	streamFirstNameBoss	

Values to return from the lookup table :

#	Field	New name	Default	Type
1	id_dimEmployees			None

Do not pass the row if the lookup fails ☐

Fail on multiple results? ☐

Order by:

[?] Help [OK] [Cancel] [Get Fields] [Get lookup fields]

- Masukkan field pada **database lookup 2**

Database lookup

Step name: Database lookup 2

Connection: conn\_oltp\_resources [Edit...] [New...] [Wizard...]

Lookup schema: dw\_legendvehicle [Browse...]

Lookup table: dimdate [Browse...]

Enable cache? ☐

Cache size in rows (0=cache): 0

Load all data from table ☐

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

#	Table field	Comparator	Field1	Field2
1	date	=	streamDate	

Values to return from the lookup table :

#	Field	New name	Default	Type
1	id_dimDate			None
2				

Do not pass the row if the lookup fails ☐

Fail on multiple results? ☐

Order by:

[?] Help [OK] [Cancel] [Get Fields] [Get lookup fields]

- Masukkan field pada **database lookup 3**

Database lookup

Step name: Database lookup 3

Connection: conn\_oltp\_resources

Lookup schema: dw\_legendvehicle

Lookup table: factomset

Enable cache? ☐

Cache size in rows (0=cache): 0

Load all data from table ☐

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

#	Table field	Comparator	Field1	Field2
1	id_DimDate	=	id_dimDate	
2	id_DimEmployees	=	id_dimEmployees	
3	amount	=	stremAmount	

Values to return from the lookup table:

#	Field	New name	Default	Type
1	id_DimDate			None
2	id_DimEmployees			None
3	amount			None

Do not pass the row if the lookup fails ☐

Fail on multiple results? ☐

Order by:

Help OK Cancel Get Fields Get lookup fields

- Masukkan kondisi dalam **filter rows**

Filter rows

Step name: Filter rows

Send 'true' data to step: Table output

Send 'false' data to step:

The condition:

To edit a subcondition, simply click on it

+

```

id_dimDate_1 IS NULL

AND

(
    AND
    id_DimEmployees_1 IS NULL
    amount IS NULL
)

```

Help OK Cancel



- Pilih database fields untuk **table output**

Table output

Step name: Table output

Connection: conn\_oltp\_resources

Target schema: dw\_legendvehicle

Target table: factomset

Commit size: 1000

Truncate table: ☐

Ignore insert errors: ☐

Specify database fields: ☒

Main options | Database fields

Fields to insert:

#	Table field	Stream field
1	id_dimEmployees	id_dimEmployees
2	id_dimDate	id_dimDate
3	amount	amount

Get fields

Enter field mapping

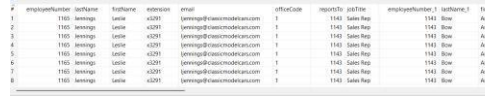






Help OK Cancel SQL

- Output pada table **factOmset**

id_dimEmployees	id_dimDate	amount
7	795	101244.59
7	606	85410.87
7	101	11044.30
7	837	83598.04
7	727	47142.70
7	672	55639.66
7	227	111654.40
7	451	43369.30
7	329	45084.38
7	708	26248.78
7	345	23923.93
7	99	16537.85
7	684	2434.25
7	322	50743.65
7	764	12692.19
7	217	38675.13
7	307	85559.12
7	805	46781.66
7	538	59551.38
7	271	29997.09
7	425	12573.28
8	717	14191.12
8	157	32641.98
8	598	33347.88
8	338	3879.96

## Tugas 3

1.

Proses Objek	SS data output	Keterangan
Table input		Seluruh data yang terpilih akan keluar di preview
Select values		Data data yang terpilih yang keluar pada preview
Databa se lookup		Data yang keluar sebelumnya dan ditambahkan dengan id_dimEmployees
Databa se lookup 2		Data yang keluar sebelumnya dan ditambahkan dengan id_dimDate
Databa se lookup 3		Data yang keluar sebelumnya dan ditambahkan dengan id_dimEmployees1, id_dimDate1, amount yang berada di table factOmset karena Namanya sama akhirnya ada "1" di akhir nama tabel
Filter rows		Memilih data yang bernilai null yaitu id_dimEmployees1, id_dimDate1, amount
Table Output		Menambahkan nilai yang false dari filter rows menuju table factOmset

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

- tidak, data yang lama akan tetap kecuali jika kita menghapus data yang lama dan di run Kembali baru akan terisi lagi. Karena tadi saya ada melakukan kesalahan dan pada akhirnya data yang ada di database saya hapus dan akhirnya saya run Kembali sehingga menampilkan output diatas



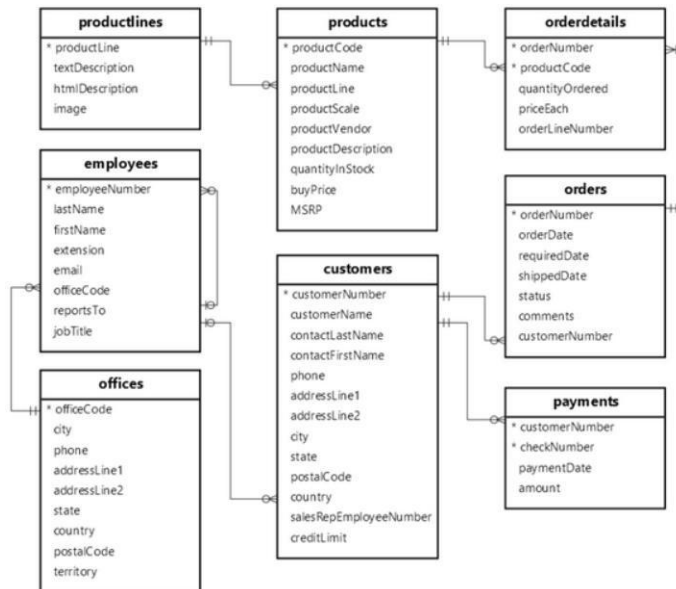


## D. Jobs

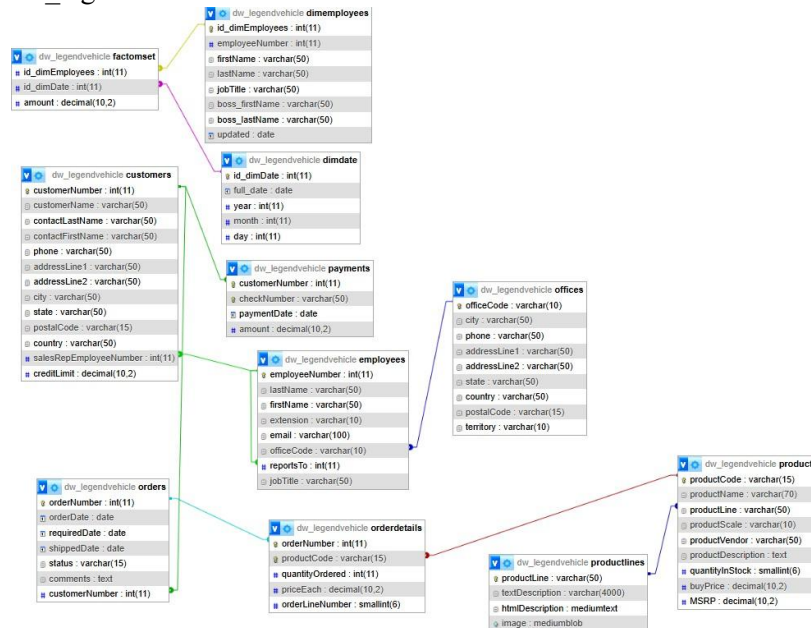
## Tugas

1. Buka desain database dari dw\_legendvehicle pada DBMS, bandingkan design tersebut dengan desain db OLTP legendVehicle pada jobsheet 2. analisislah dan ceritakan perbedaannya.

OLTP LegendVehicle:



dw\_legendvehicle:



2. Buatlah report pertahun untuk KPI "Jumlah omset yang didapat" pada Foon Yue Tseng dan Pamela Castillo. Serta gambarkan grafiknya (grafik garis).

Input:

```

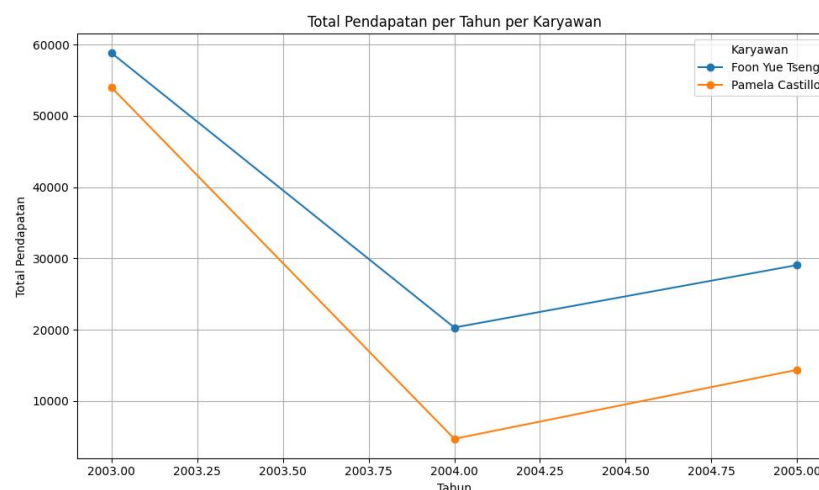
1 SELECT
2     d.year AS order_year,
3     CONCAT(e.firstname, ' ', e.lastname) AS employee_name,
4     f.amount AS total_pendapatan
5 FROM dimemployees AS e
6 JOIN factomset AS f ON e.id_dimEmployees = f.id_dimEmployees
7 JOIN dimdate AS d ON f.id_dimDate = d.id_dimDate
8 WHERE d.year IN (2003,2004,2005)
9 AND CONCAT(e.firstname, ' ', e.lastname) IN ('Foon Yue Tseng', 'Pamela Castillo')
10 GROUP BY order_year, employee_name
11 ORDER BY order_year, employee_name;

```

Output:

order_year	1 employee_name	2 total_pendapatan
2003	Foon Yue Tseng	58793.53
2003	Pamela Castillo	53959.21
2004	Foon Yue Tseng	20314.44
2004	Pamela Castillo	4710.73
2005	Foon Yue Tseng	29070.38
2005	Pamela Castillo	14379.90

Grafik:



3. Jelaskan perbedaan query saat mendapatkan data pada nomor 2 dengan query pada saat Jobsheet 2!
  - query setelah melakukan migration data di Pentaho seperti membuat view yaitu mengumpulkan beberapa data dalam satu table dan memudahkan dalam melakukan query
4. Simpulkan dengan bahasa sendiri, apa perbedaan OLTP dan OLAP?
  - OLTP(OnLine Transaction Processing) : yaitu sebuah proses yang dilakukan realtime, atau proses yang dilakukan harus cepat dan selesai pada waktu itu juga.
  - OLAP(OnLine Analytical Processing) : yaitu sebuah proses yang dilakukan dalam kurun waktu tertentu, atau secara singkatnya Kumpulan data sebelumnya dan dilakukan sebuah proses(seperti query, laporan, dll)

## E. Studi Kasus

Pak Marto merupakan komisar dari LegendVehicle. Pak Marto butuh laporan untuk analisa dari hasil penjualan dilihat dari sisi barang / product. Buatlah database OLAP tersebut untuk membantu pak marto menganalisa penjualan barang.

1. Membuat tabel dimensi yang bernama dim\_product:

- Menambahkan tabel dimProduct pada database dw\_legendVehicle

```
CREATE TABLE dimProduct (  
    id_dimProduct INT AUTO_INCREMENT PRIMARY KEY,  
    productCode VARCHAR(15),  
    productName VARCHAR(100),  
    productLine VARCHAR(50),  
    productScale VARCHAR(20),  
    productVendor VARCHAR(50)  
);
```

- Konfigurasi di Pentaho



**Execution Results**

Logging Execution History Step Metrics Performance Graph Metrics Preview data

First rows Last rows Off

#	productCode	productName	productLine	productScale	productVendor	id_dimProduct
1	S10_1678	1969 Harley Davidson Ultimate Chopper	Motorcycles	1:10	Min Lin Diecast	<null>
2	S10_1949	1952 Alpine Renault 1300	Classic Cars	1:10	Classic Metal Creations	<null>
3	S10_2016	1996 Moto Guzzi 1100i	Motorcycles	1:10	Highway 66 Mini Classics	<null>
4	S10_4698	2003 Harley-Davidson Eagle Drag Bike	Motorcycles	1:10	Red Start Diecast	<null>
5	S10_4757	1972 Alfa Romeo GTA	Classic Cars	1:10	Motor City Art Classics	<null>
6	S10_4962	1962 Lancia Delta 16V	Classic Cars	1:10	Second Gear Diecast	<null>
7	S12_1099	1968 Ford Mustang	Classic Cars	1:12	Autoart Studio Design	<null>
8	S12_1108	2001 Ferrari Enzo	Classic Cars	1:12	Second Gear Diecast	<null>
9	S12_1666	1958 Setra Bus	Trucks and Buses	1:12	Welly Diecast Productions	<null>
1	S12_2823	2002 Suzuki XREO	Motorcycles	1:12	Unimax Art Galleries	<null>

- Output tersimpan di database

Server: localhost:3306 Database: dw\_legendVehicle Table: dimproduct

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Showing rows 0 - 24 (110 total, Query took 0.0062 seconds)

SELECT \* FROM 'dimproduct'

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

1 > >> Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	id_dimProduct	productCode	productName	productLine	productScale	productVendor
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	40	S10_1678	1969 Harley Davidson Ultimate Chopper	Motorcycles	1:10	Min Lin Diecast
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	41	S10_1949	1952 Alpine Renault 1300	Classic Cars	1:10	Classic Metal Creations
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	42	S10_2016	1996 Moto Guzzi 1100i	Motorcycles	1:10	Highway 66 Mini Classics
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	43	S10_4698	2003 Harley-Davidson Eagle Drag Bike	Motorcycles	1:10	Red Start Diecast
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	44	S10_4757	1972 Alfa Romeo GTA	Classic Cars	1:10	Motor City Art Classics
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	45	S10_4962	1962 Lancia Delta 16V	Classic Cars	1:10	Second Gear Diecast
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	46	S12_1099	1968 Ford Mustang	Classic Cars	1:12	Autoart Studio Design
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	47	S12_1108	2001 Ferrari Enzo	Classic Cars	1:12	Second Gear Diecast
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	48	S12_1666	1958 Setra Bus	Trucks and Buses	1:12	Welly Diecast Productions
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	49	S12_2823	2002 Suzuki XREO	Motorcycles	1:12	Unimax Art Galleries
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	50	S12_3148	1969 Convair Monza	Classic Cars	1:18	Welly Diecast Productions
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	51	S12_3380	1968 Dodge Charger	Classic Cars	1:12	Welly Diecast Productions
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	52	S12_3891	1969 Ford Falcon	Classic Cars	1:12	Second Gear Diecast
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	53	S12_3990	1970 Plymouth Hemi Cuda	Classic Cars	1:12	Studio M Art Models
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	54	S12_4473	1957 Chevy Pickup	Trucks and Buses	1:12	Exoto Designs

## 2. Membuat tabel fakta yang bernama fact\_sales

- Membuat tabel baru pada database dw\_legendvehicle dengan nama factsales

```
CREATE TABLE factSales (  
    id_factSales INT NOT NULL AUTO_INCREMENT PRIMARY KEY,  
    id_dimProduct INT,  
    id_dimDate INT,  
    quantitySold INT,  
    salesAmount DECIMAL(10,2),  
    FOREIGN KEY (id_dimProduct) REFERENCES dimProduct(id_dimProduct),  
    FOREIGN KEY (id_dimDate) REFERENCES dimDate(id_dimDate)  
);
```

- Konfigurasi di Pentaho

The screenshot displays the Pentaho Data Integration (PDI) interface. At the top, a data flow diagram shows a sequence of steps: Table input, Select values, Database lookup, Database lookup 2, Database lookup 3, Filter rows, and Table output. Below the diagram, the 'Execution Results' window is open, showing a table with 9 rows of data. The table has columns: orderDate, productCode, quantityOrdered, priceEach, id\_dimProduct, id\_dimDate, and id\_factSales. The data is as follows:

#	orderDate	productCode	quantityOrdered	priceEach	id_dimProduct	id_dimDate	id_factSales
1	2003/01/06 00:00:00.000	S18_1749	30	136.0	62	6	<null>
2	2003/01/06 00:00:00.000	S18_2248	50	55.09	66	6	<null>
3	2003/01/06 00:00:00.000	S18_4409	22	75.46	89	6	<null>
4	2003/01/06 00:00:00.000	S24_3969	49	35.29	119	6	<null>
5	2003/01/09 00:00:00.000	S18_2325	25	108.06	68	9	<null>
6	2003/01/09 00:00:00.000	S18_2795	26	167.06	72	9	<null>
7	2003/01/09 00:00:00.000	S24_1937	45	32.53	100	9	<null>
8	2003/01/09 00:00:00.000	S24_2022	46	44.35	103	9	<null>
9	2003/01/10 00:00:00.000	S18_1342	39	95.55	58	10	<null>

- Output tersimpan di database

The screenshot shows a database management tool interface with a table named 'factSales'. The table has columns: id\_factSales, id\_dimProduct, id\_dimDate, quantitySold, and salesAmount. The data is as follows:

id_factSales	id_dimProduct	id_dimDate	quantitySold	salesAmount
1	62	6	30	136.00
2	66	6	50	55.09
3	89	6	22	75.46
4	119	6	49	35.29
5	68	9	25	108.06
6	72	9	26	167.06
7	100	9	45	32.53
8	103	9	46	44.35
9	58	10	39	95.55
10	59	10	41	43.13
11	41	29	26	214.30
12	45	29	42	119.67
13	48	29	27	121.64
14	56	29	35	94.50
15	69	29	22	58.34

3. Membuat job untuk menggabungkan dimdate, dimproduct dan factsales

- Struktur tabel pada dw\_legendvehicle setelah dieksekusi

