

LAPORAN UJIAN AKHIR SEMESTER

OLAP GROCERY INVENTORY AND SALE



Mata Kuliah Data Warehouse
Dosen Pengampu : Vipkas Al Hadid Firdaus, S.T., M.T.

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JURUSAN TEKNOLOGI INFORMASI
PROGRAM STUDI D-IV SISTEM INFORMASI BISNIS

POLITEKNIK NEGERI MALANG
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UJIAN AKHIR SEMESTER IV MATA KULIAH DATA WAREHOUSE

I. Link Source Dataset : [Grocery Inventory And Sale](#)

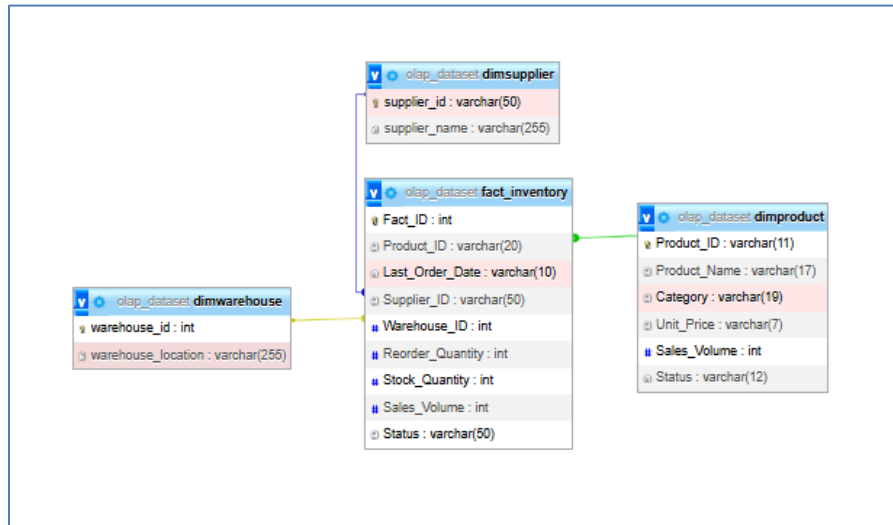
II. Key Performances Index (KPI) :

- Stock Availability
- Top Selling Products
- Top Reorder Products
- Reorder Efficiency

III. Langkah Praktikum

A. Proses ETL

Berikut adalah star schema dari proses ETL



1. Buat database OLTP dengan nama datasetuas dan upload file csv dataset

Databases

Create database

datasetuas

utf8mb4_0900_ai_ci

Create

File to import:

File may be compressed (gzip, zip) or uncompressed.
A compressed file's name must end in `.[format].[compression]`. Example: `.sql.zip`

Browse your computer: (Max: 2,048MiB)

Choose File

Grocery_Inventory_and_Sales_Dataset.csv

You may also drag and drop a file on any page.

Character set of the file:

utf-8

Import these many number of rows (optional):

☒ The first line of the file contains the table column names (if this is unchecked, the first line will become part of the data)

☐ Do not abort on INSERT error

2. Buat tabel dimensi dan fakta untuk proses ETL dengan nama `olap_data`
Databases

Create database

`olap_dataset` `utf8mb4_0900_ai_ci`

Create

3. Buat struktur tabel dimensi dan fakta dengan query berikut
 - DimProduct

```
1 CREATE TABLE dimProduct (
2   Product_ID VARCHAR(11) PRIMARY KEY,
3   Product_Name VARCHAR(17),
4   Category VARCHAR(19),
5   Unit_Price VARCHAR(7),
6   Sales_Volume int,
7   Status VARCHAR(12)
8 );
```

- DimSupplier

Run SQL query/queries on database `olap_dataset`:

```
1 CREATE TABLE dimSupplier (
2   supplier_id VARCHAR(50) PRIMARY KEY,
3   supplier_name VARCHAR(255)
4 );
```

- DimWarehouse

Run SQL query/queries on database `olap_dataset`:

```
1 CREATE TABLE dimWarehouse (
2   warehouse_id INT AUTO_INCREMENT PRIMARY KEY,
3   warehouse_location VARCHAR(255)
4 );
```

- FactInventory

```
1 CREATE TABLE Fact_Reorder_Efficiency (
2   Fact_ID INT AUTO_INCREMENT PRIMARY KEY,
3   Product_ID VARCHAR(20) NOT NULL,
4   Last_Order_Date VARCHAR(10) NOT NULL,
5   Supplier_ID VARCHAR(50) NOT NULL,
6   Warehouse_ID INT NOT NULL,
7   Reorder_Quantity INT,
8   Stock_Quantity INT,
9   Sales_Volume INT,
10  Status VARCHAR(50),
11  FOREIGN KEY (Product_ID) REFERENCES dimProduct(Product_ID),
12  FOREIGN KEY (Supplier_ID) REFERENCES dimSupplier(Supplier_ID),
13  FOREIGN KEY (Warehouse_ID) REFERENCES dimWarehouse(Warehouse_ID)
14 );
15
```

B. ETL Tabel Dimensi

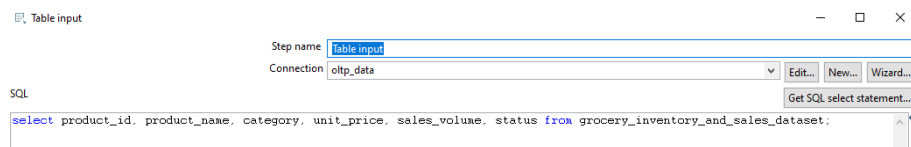
- **Tabel DimProduct**

1. Buat transformasi baru untuk DimProduct, drag dan drop objek pada transformasi

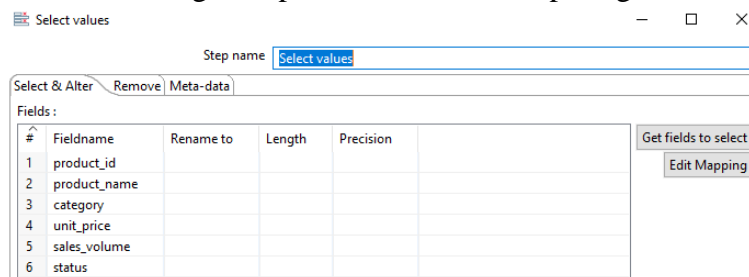


- ✓ Table input, digunakan untuk menginputkan file source oltp
- ✓ Select value, digunakan untuk mengambil field input table oltp
- ✓ Unique Rows, digunakan untuk menghindari duplikat product_id
- ✓ Table output, digunakan untuk menyimpan data pada tabel tujuan

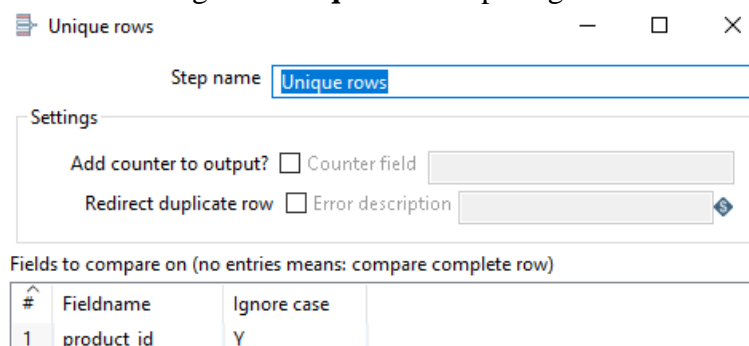
2. Lakukan konfigurasi pada **table input** dan buat koneksi database ke datasetuas dengan nama oltp_data



3. Lakukan konfigurasi pada **select values** seperti gambar di bawah ini



4. Lakukan konfigurasi **unique rows** seperti gambar di bawah ini



5. Lakukan konfigurasi pada **table output**. Buat koneksi database baru dengan nama **olap_data** untuk menyimpan output ke database **olap_dataset** pada tabel **dimProduct**.

Table output

Step name: Table output

Connection: olap_data [Edit... New... Wizard...]

Target schema: olap_dataset [Browse...]

Target table: dimProduct [Browse...]

Commit size: 1000

Truncate table: ☐

Ignore insert errors: ☐

Specify database fields: ☒

Main options: Database fields

Fields to insert:

#	Table field	Stream field
1	product_id	product_id
2	product_name	product_name
3	category	category
4	unit_price	unit_price
5	sales_volume	sales_volume
6	status	status

Get fields

Enter field mapping

6. Jalankan transformasi dan pastikan data tersimpan ke database pada tabel **dimProduct**

Execution Results

Logging Execution History Step Metrics Performance Graph Metrics Preview

2025/06/21 20:41:37 - Spoon - Save file as...

2025/06/21 20:41:47 - Spoon - Transformation opened.

2025/06/21 20:41:47 - Spoon - Launching transformation [DimProductRev]...

2025/06/21 20:41:47 - Spoon - Started the transformation execution.

2025/06/21 20:41:48 - DimProductRev - Dispatching started for transformation [DimProductRev]

2025/06/21 20:41:48 - Table output.0 - Connected to database [olap_data] (commit=1000)

2025/06/21 20:41:48 - Table input.0 - Finished reading query, closing connection

2025/06/21 20:41:48 - Table input.0 - Finished processing (I=990, O=0, R=0, W=990, U=0, E=0)

2025/06/21 20:41:48 - Select values.0 - Finished processing (I=0, O=0, R=990, W=990, U=0, E=0)

2025/06/21 20:41:48 - Unique rows.0 - Finished processing (I=0, O=0, R=990, W=990, U=0, E=0)

2025/06/21 20:41:49 - Table output.0 - Finished processing (I=0, O=990, R=990, W=990, U=0, E=0)

2025/06/21 20:41:49 - Spoon - The transformation has finished!!

2025/06/21 21:09:25 - Spoon - Transformation opened.

2025/06/21 21:09:25 - Spoon - Launching transformation [fact_reorder]...

2025/06/21 21:09:25 - Spoon - Started the transformation execution.

2025/06/21 21:09:25 - Spoon - The transformation has finished!!

Showing rows 0 - 24 (990 total, Query took 0.0021 seconds)

SELECT * FROM dimproduct

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

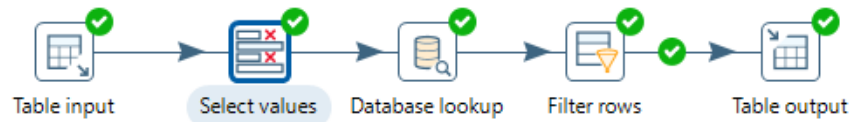
1 > >> Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	Product_ID	Product_Name	Category	Unit_Price	Sales_Volume	Status
<input type="checkbox"/>	00-119-8780	Halibut	Seafood	\$20.00	39	Backordered
<input type="checkbox"/>	00-215-7434	Egg (Goose)	Dairy	\$2.50	59	Backordered
<input type="checkbox"/>	00-357-2313	Avocado Oil	Oils & Fats	\$10.00	24	Backordered
<input type="checkbox"/>	00-388-9496	Grapes	Fruits & Vegetables	\$5.50	63	Active
<input type="checkbox"/>	00-406-7428	Apple	Fruits & Vegetables	\$3.50	42	Discontinued
<input type="checkbox"/>	00-440-9568	Blueberries	Fruits & Vegetables	\$10.00	55	Active

- **Tabel DimSupplier**

1. Buat transformasi baru untuk DimSupplier, drag dan drop objek pada transformasi



2. Lakukan konfigurasi untuk table input, untuk mengambil data supplier berupa **supplier_id** dan **supplier_name** dari database OLTP

Table input configuration window showing the SQL query:

```
supplier_id, supplier_name FROM grocery_inventory_and_sales_dataset
```

3. Lakukan konfigurasi untuk select value untuk memilih kolom yang dibutuhkan yaitu **supplier_id** dan **supplier_name**

#	Fieldname	Rename to	Length	Precision
1	supplier_id			
2	supplier_name			

4. Lakukan konfigurasi untuk Database lookup untuk mengecek apakah **supplier_id** sudah ada di olap_data

Database lookup configuration window showing the key(s) to look up the value(s):

#	Table field	Comparator	Field1	Field2
1	supplier_id	=	supplier_id	

Values to return from the lookup table:

#	Field	New name	Default	Type
1	supplier_id	found_supplier_id		String

5. Lakukan konfigurasi pada filter rows agar hanya data baru atau yang belum ada di dimSupplier yang akan dilanjutkan

Filter rows

Step name: Filter rows

Send 'true' data to step: Add sequence

Send 'false' data to step:

The condition:

☐ found_supplier_id IS NULL

6. Lakukan konfigurasi pada Table output untuk memberikan koneksi kepada oltp_data dan olap_data dan tabel dimSupplier

Table output

Step name: Table output

Connection: olap_data

Target schema: olap_dataset

Target table: dimSupplier

Commit size: 1000

Truncate table: ☐

Ignore insert errors: ☐

Specify database fields: ☒

Main options | Database fields

Fields to insert:

#	Table field	Stream field
1	supplier_id	supplier_id
2	supplier_na...	supplier_name

Get fields

Enter field mapping

7. Jalankan transformasi dan pastikan data tersimpan ke database pada tabel dimSupplier

Showing rows 0 - 24 (990 total, Query took 0.0098 seconds.)

SELECT * FROM 'dimsupplier'

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

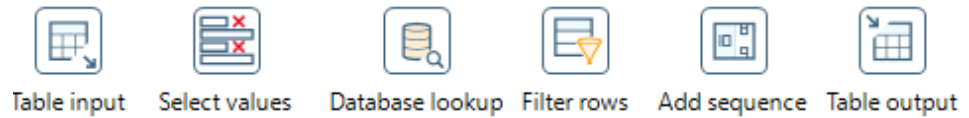
1 > >> | Number of rows: 25 Filter rows

Extra options

	supplier_id	supplier_name
<input type="checkbox"/> Edit Copy Delete	00-023-7719	Kamba
<input type="checkbox"/> Edit Copy Delete	00-131-9278	Skynoodle
<input type="checkbox"/> Edit Copy Delete	00-258-2525	Thoughtbeat
<input type="checkbox"/> Edit Copy Delete	00-487-2428	Meembee
<input type="checkbox"/> Edit Copy Delete	00-635-4638	Eidel
<input type="checkbox"/> Edit Copy Delete	00-680-5333	Kamba

- **Tabel DimWarehouse**

1. Buat transformasi baru untuk DimWarehouse, drag dan drop objek pada transformasi



2. Lakukan konfigurasi pada table input untuk mengambil data dari **database OLTP**

Step name: Table input
Connection: oltp_data
SQL: `SELECT DISTINCT warehouse_location FROM grocery_inventory_and_sales_data`

3. Lakukan konfigurasi pada select value untuk memilih kolom yang dibutuhkan yaitu **warehouse_location**

Step name: Select values
Fields:
1 | warehouse_location

4. Lakukan konfigurasi pada database lookup untuk mengecek apakah warehouse_location sudah ada pada OLAP_data

Step name: Database lookup
Connection: olap_data
Lookup schema: olap_dataset
Lookup table: dimWarehouse
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	warehouse_location	=	warehouse_location	

Values to return from the lookup table:

#	Field	New name	Default	Type
1	warehouse_location			String

5. Lakukan konfigurasi pada filter rows agar lokasi yang belum ada pada database dilanjutkan ke output

Filter rows

Step name:

Send 'true' data to step:

Send 'false' data to step:

The condition:

☐

6. Lakukan konfigurasi pada add sequence seperti pada gambar dibawah ini

Add sequence

Step name:

Name of value:

Use a database to generate the sequence

Use DB to get sequence? ☒

Connection:

Schema name:

Sequence name:

Use a transformation counter to generate the sequence

Use counter to calculate sequence? ☒

Counter name (optional):

Start at value:

Increment by:

Maximum value:

7. Lakukan konfigurasi pada table output untuk memberikan koneksi kepada oltp_data dan olap_data dan dimWarehouse

Table output

Step name:

Connection:

Target schema:

Target table:

Commit size:

Truncate table: ☐

Ignore insert errors: ☐

Specify database fields: ☒

Main options | Database fields

Fields to insert:

#	Table field	Stream field	Fields to insert
1	warehouse...	warehouse_...	
2	warehouse...	warehouse_id	

- Jalankan transformasi dan pastikan data tersimpan ke database pada tabel dimWarehouse

Showing rows 0 - 24 (990 total, Query took 0.0034 seconds.)

SELECT * FROM "dimwarehouse"

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

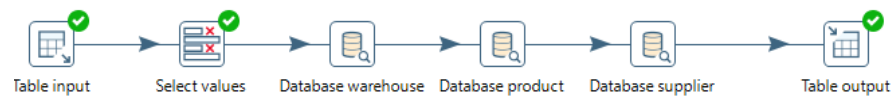
1 > >> Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	warehouse_id	warehouse_location
<input type="checkbox"/> Edit Copy Delete	1	48 Del Sol Trail
<input type="checkbox"/> Edit Copy Delete	2	36 3rd Place
<input type="checkbox"/> Edit Copy Delete	3	3296 Walton Court
<input type="checkbox"/> Edit Copy Delete	4	3 Westerfield Crossing
<input type="checkbox"/> Edit Copy Delete	5	15088 Scoville Court
<input type="checkbox"/> Edit Copy Delete	6	050 McBride Avenue

C. ETL Tabel FactInventory

- Buat transformasi baru untuk tabel FactInventory. Drag dan drop beberapa objek pada transformasi



- Lakukan konfigurasi pada table input untuk mengambil data dari oltp. Buat koneksi dengan nama oltp_data dan dihubungkan dengan database datasetuas

Select values

Step name: Select values

Select & Alter Remove Meta-data

#	Fieldname	Rename to	Length	Precision
1	Warehouse_Location			
2	Supplier_Name			
3	Product_Name			
4	Category			
5	Unit_Price			
6	Last_Order_Date			
7	Stock_Quantity			
8	Reorder_Quantity			
9	Sales_Volume			
10	Status			
11	Product_ID			

Get fields to select Edit Mapping

- Lakukan konfigurasi pada **database lookup 1** untuk dengan dimWarehouse seperti gambar di bawah ini. Buat koneksi database baru dengan nama olap_data dan hubungan dengan database olap_dataset.

Database lookup

Step name: Database warehouse

Connection: olap_data Edit... New... Wizard...

Lookup schema: olap_dataset Browse...

Lookup table: dimWarehouse 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	warehouse_location	=	Warehouse_Location	

Values to return from the lookup table:

#	Field	New name	Default	Type
1	warehouse_id			None

4. Lakukan konfigurasi pada **database lookup 2** untuk dengan dimProduct seperti gambar di bawah ini

The screenshot shows the 'Database lookup' configuration window for 'Database product'. The 'Step name' is 'Database product'. The 'Connection' is 'olap_data'. The 'Lookup schema' is 'olap_dataset'. The 'Lookup table' is 'dimProduct'. The 'Enable cache?' checkbox is unchecked. The 'Cache size in rows (0=cache)' is set to 0. The 'Load all data from table' checkbox is unchecked. The 'The key(s) to look up the value(s):' table has 3 rows: 1. Product_Name = Product_Name, 2. Category = Category, 3. Product_ID = Product_ID. The 'Values to return from the lookup table:' table has 1 row: 1. Product_ID, New name, Default, Type, None.

#	Table field	Comparator	Field1	Field2
1	Product_Name	=	Product_Name	
2	Category	=	Category	
3	Product_ID	=	Product_ID	

#	Field	New name	Default	Type
1	Product_ID			None

5. Lakukan konfigurasi pada **database lookup 3** untuk dengan dimSupplier seperti gambar di bawah ini

The screenshot shows the 'Database lookup' configuration window for 'Database supplier'. The 'Step name' is 'Database supplier'. The 'Connection' is 'olap_data'. The 'Lookup schema' is 'olap_dataset'. The 'Lookup table' is 'dimsupplier'. The 'Enable cache?' checkbox is unchecked. The 'Cache size in rows (0=cache)' is set to 0. The 'Load all data from table' checkbox is unchecked. The 'The key(s) to look up the value(s):' table has 1 row: 1. supplier_name = Supplier_Name. The 'Values to return from the lookup table:' table has 1 row: 1. supplier_id, New name, Default, Type, None.

#	Table field	Comparator	Field1	Field2
1	supplier_name	=	Supplier_Name	

#	Field	New name	Default	Type
1	supplier_id			None

6. Lakukan konfigurasi pada **table output** dan gunakan koneksi olap_data dengan tabel tujuan Fact_Inventory

The screenshot shows the 'Table output' configuration window. The 'Step name' is 'Table output'. The 'Connection' is 'olap_data'. The 'Target schema' is 'olap_dataset'. The 'Target table' is 'fact_inventory'. The 'Commit size' is set to 1000. The 'Truncate table' checkbox is checked. The 'Ignore insert errors' checkbox is unchecked. The 'Specify database fields' checkbox is checked. The 'Main options / Database fields' tab is selected. The 'Fields to insert:' table has 8 rows: 1. Product_ID, 2. Supplier_ID, 3. Warehouse_ID, 4. Reorder_Quantity, 5. Stock_Quantity, 6. Sales_Volume, 7. Status, 8. Last_Order_Date. The 'Stream field' column is empty. The 'Get fields' and 'Enter field mapping' buttons are visible.

#	Table field	Stream field
1	Product_ID	
2	Supplier_ID	
3	Warehouse_ID	
4	Reorder_Quantity	
5	Stock_Quantity	
6	Sales_Volume	
7	Status	
8	Last_Order_Date	

7. Jalankan transformasi dan pastikan data berhasil tersimpan ke tabel Fact_Inventory

Execution Results

Logging Execution History Step Metrics Performance Graph Metrics Preview

2025/06/21 21:38:00 - Spoon - Transformation opened.
2025/06/21 21:38:00 - Spoon - Launching transformation [FactInventory]...
2025/06/21 21:38:00 - Spoon - Started the transformation execution.
2025/06/21 21:38:00 - FactInventory - Dispatching started for transformation [FactInventory]
2025/06/21 21:38:00 - Table output.0 - Connected to database [olap_data] (commit=1000)
2025/06/21 21:38:00 - Table input.0 - Finished reading query, closing connection
2025/06/21 21:38:00 - Table input.0 - Finished processing (I=990, O=0, R=0, W=990, U=0, E=0)
2025/06/21 21:38:00 - Select values.0 - Finished processing (I=0, O=0, R=990, W=990, U=0, E=0)
2025/06/21 21:38:01 - Database lookup.0 - Finished processing (I=990, O=0, R=990, W=990, U=0, E=0)
2025/06/21 21:38:01 - Database lookup 2.0 - Finished processing (I=989, O=0, R=990, W=990, U=0, E=0)
2025/06/21 21:38:01 - Database lookup 3.0 - Finished processing (I=990, O=0, R=990, W=990, U=0, E=0)
2025/06/21 21:38:01 - Table output.0 - Finished processing (I=0, O=990, R=990, W=990, U=0, E=0)
2025/06/21 21:38:01 - Spoon - The transformation has finished!!

Showing rows 0 - 499 (990 total, Query took 0.0290 seconds)

SELECT * FROM Fact_Inventory

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

1 > >> Number of rows: 500 Filter rows: Search this table Sort by key: None

Extra options

	Fact_ID	Product_ID	Last_Order_Date	Supplier_ID	Warehouse_ID	Reorder_Quantity	Stock_Quantity	Sales_Volume	Status
1	1	29-205-1132	6/26/2024	31-524-1628	1	70	22	32	Discontinued
2	2	40-581-0981	5/26/2024	23-319-2881	2	2	45	85	Discontinued
3	3	00-665-3428	6/10/2024	15-550-0171	3	83	30	31	Backordered
4	4	71-564-6552	2/19/2025	01-210-3485	4	82	12	95	Active
5	5	57-437-1828	10/11/2024	34-334-8888	5	74	37	82	Backordered
6	6	21-120-8238	5/26/2024	17-494-5505	6	14	55	34	Discontinued
7	7	71-515-1995	5/7/2024	04-391-7610	7	16	98	67	Active

D. Key Performances Index

- **Stock Availability**, digunakan untuk mengetahui ketersediaan stok.



Table input

Step name: Table input

Connection: olap_data

SQL

```
SELECT f.Product_ID, p.Product_Name, SUM(f.Stock_Quantity) AS Total_Stock
FROM fact_inventory f
JOIN dimProduct p ON f.Product_ID = p.Product_ID
WHERE f.Status = 'Active'
GROUP BY f.Product_ID, p.Product_Name
ORDER BY Total_Stock DESC
```

Sort rows

Step name: Sort rows

Sort directory: %%java.io.tmpdir%%

TMP-file prefix: out

Sort size (rows in memory): 1000000

Free memory threshold (in %):

Compress TMP Files? ☐

Only pass unique rows? (verifies keys only) ☐

Fields:

#	Fieldname	Ascending	Case sensitive compare?	Sort based on current locale?	Collator Strength	Presorted?
1	Total_Stock	N	N	N	0	N

Microsoft Excel output

Step name: Microsoft Excel output

File Content Custom Fields

Filename: F:\KULIAH\SEMESTER 4\2. TUGAS\2. DATA WAREHOUSE\UAS 2\KPI_Stock Availability\KPI_Stock Availability.xls

Create Parent folder ☐

Do not create file at start ☐

Extension: xls

Include stepnr in filename? ☐

Include date in filename? ☐

Include time in filename? ☐

Specify Date time format ☐

Date time format:

Show filename(s)...

Add filenames to result ☒

Microsoft Excel output

Step name: Microsoft Excel output

File Content Custom Fields

#	Name	Type	Format
1	ID Product	String	
2	Product Name	String	
3	Availability Stock	BigNumber	0

2025/06/21 22:45:08 - Spoon - Transformation opened.

2025/06/21 22:45:08 - Spoon - Launching transformation [KPI_Reorder Efficiency]...

2025/06/21 22:45:08 - Spoon - Started the transformation execution.

2025/06/21 22:45:08 - Spoon - The transformation has finished!!

2025/06/21 22:55:10 - Spoon - Save file as...

2025/06/21 22:55:37 - Spoon - Transformation opened.

2025/06/21 22:55:37 - Spoon - Launching transformation [KPI_Availability Stock]...

2025/06/21 22:55:37 - Spoon - Started the transformation execution.

2025/06/21 22:55:38 - KPI_Availability Stock - Dispatching started for transformation [KPI_Availability Stock]

2025/06/21 22:55:38 - Table input.0 - Finished reading query, closing connection

2025/06/21 22:55:38 - Table input.0 - Finished processing (I=332, O=0, R=0, W=332, U=0, E=0)

2025/06/21 22:55:38 - Sort rows.0 - Finished processing (I=0, O=0, R=332, W=332, U=0, E=0)

2025/06/21 22:55:38 - Select values.0 - Finished processing (I=0, O=0, R=332, W=332, U=0, E=0)

2025/06/21 22:55:39 - Microsoft Excel output.0 - Finished processing (I=0, O=332, R=332, W=332, U=0, E=0)

2025/06/21 22:55:39 - Spoon - The transformation has finished!!

Berikut adalah file output berformat Excel

A1			
ID Product			
	A	B	C
1	ID Product	Product Name	Availability Stock
2	65-718-0492	Olive Oil	100
3	88-977-0175	Chocolate Biscuit	100
4	27-216-9671	Sesame Oil	100
5	20-225-3930	White Tea	99
6	26-629-5920	Rye Bread	99
7	47-581-0363	Parmesan Cheese	99
8	67-382-4435	Green Beans	99
9	95-354-8583	Long Grain Rice	98
10	11-155-7826	Arabica Coffee	98

- **Top Selling Products**, digunakan untuk mencari product yang paling banyak terjual.

Table input

Step name: Table input

Connection: olap_data

SQL

```
SELECT f.Product_ID, p.Product_Name, SUM(f.Sales_Volume) AS Total_Sales
FROM fact_inventory f
JOIN dimProduct p ON f.Product_ID = p.Product_ID
WHERE f.Status = 'Active'
GROUP BY f.Product_ID, p.Product_Name
ORDER BY Total_Sales DESC
```

Sort rows

Step name:

Sort directory:

TMP-file prefix:

Sort size (rows in memory):

Free memory threshold (in %):

Compress TMP Files? ☐

Only pass unique rows? (verifies keys only) ☐

Fields:

#	Fieldname	Ascending	Case sensitive compare?	Sort based on current locale?	Collator Strength	Presorted?
1	Total_Sales	N	N	N	0	N

Select values

Select values

Step name:

Select & Alter Remove Meta-data

Fields:

#	Fieldname	Rename to	Length	Precision
1	Product_ID			
2	Product_Name			
3	Total_Sales			

Get fields to select
Edit Mapping

Select values

Select values

Step name:

Select & Alter Remove Meta-data

Fields to alter the meta-data for:

#	Fieldname	Rename to	Type	Length	Precision	Binary type
1	Product_ID	ID Product	None	20		N
2	Product_Name	Product Name	None	17		N
3	Total_Sales	Total Sales	None	32	0	N

Microsoft Excel output

Step name:

File Content Custom Fields

Filename:

Create Parent folder ☐

Do not create file at start ☐

Extension:

Include stepnr in filename? ☐

Include date in filename? ☐

Include time in filename? ☐

Specify Date time format ☐

Date time format:

Show filename(s)...

Add filenames to result ☒

Microsoft Excel output

Step name:

File Content Custom Fields

#	Name	Type	Format
1	ID Product	String	
2	Product Name	String	
3	Total Sales	BigNumber	0

Execution Results

Logging Execution History Step Metrics Performance Graph Metrics Preview data

2025/06/21 22:58:56 - Spoon - Transformation opened.

2025/06/21 22:58:56 - Spoon - Launching transformation [KPI_Top Sales Product]...

2025/06/21 22:58:56 - Spoon - Started the transformation execution.

2025/06/21 22:58:57 - KPI_Top Sales Product - Dispatching started for transformation [KPI_Top Sales Product]

2025/06/21 22:58:57 - Table input.0 - Finished reading query, closing connection

2025/06/21 22:58:57 - Table input.0 - Finished processing (I=332, O=0, R=0, W=332, U=0, E=0)

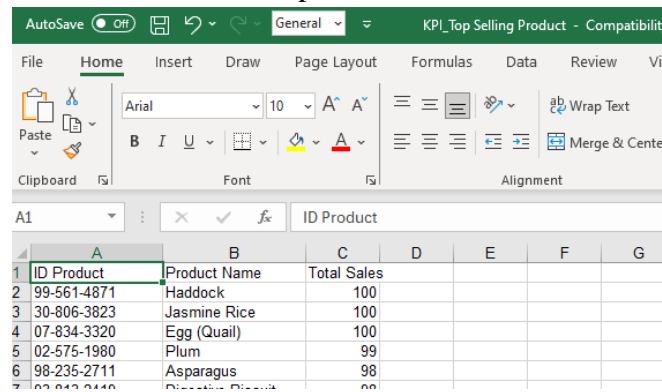
2025/06/21 22:58:57 - Sort rows.0 - Finished processing (I=0, O=0, R=332, W=332, U=0, E=0)

2025/06/21 22:58:57 - Select values.0 - Finished processing (I=0, O=0, R=332, W=332, U=0, E=0)

2025/06/21 22:58:57 - Microsoft Excel output .0 - Finished processing (I=0, O=332, R=332, W=332, U=0, E=0)

2025/06/21 22:58:57 - Spoon - The transformation has finished!!

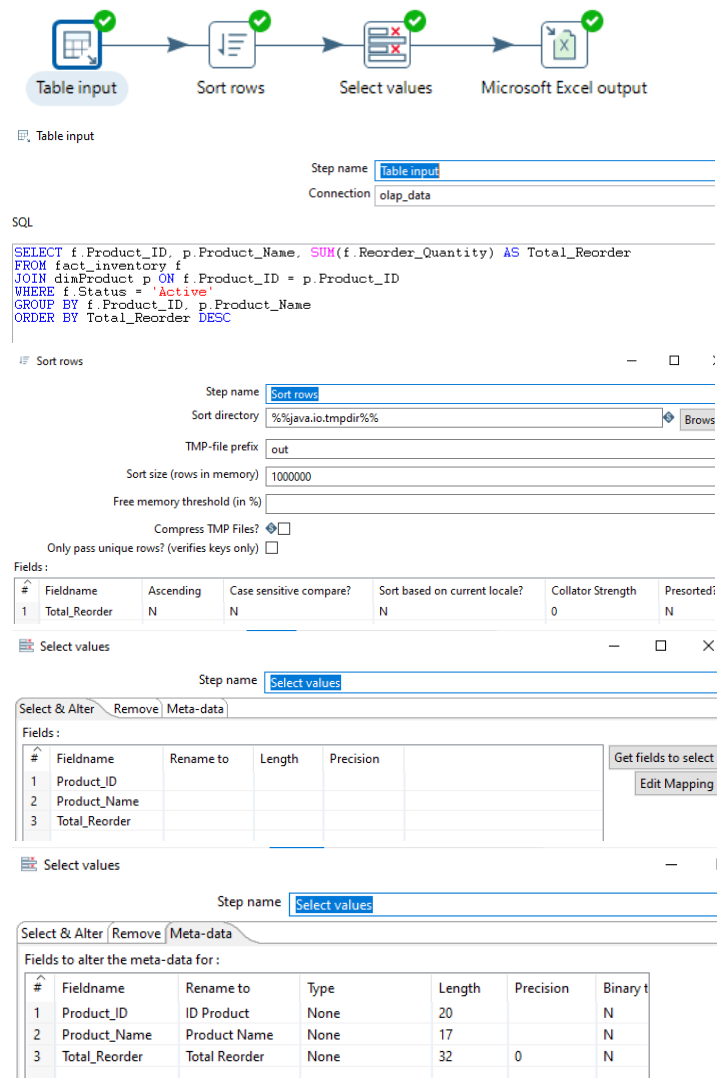
Berikut adalah file output berformat Excel

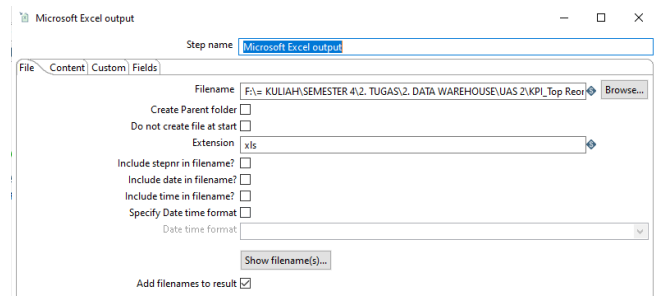


The screenshot shows a Microsoft Excel window titled 'KPI_Top Selling Product - Compatibility'. The 'Home' tab is active. The table data is as follows:

	A	B	C	D	E	F	G
1	ID Product	Product Name	Total Sales				
2	99-561-4871	Haddock	100				
3	30-806-3823	Jasmine Rice	100				
4	07-834-3320	Egg (Quail)	100				
5	02-575-1980	Plum	99				
6	98-235-2711	Asparagus	98				
7	03-843-2448	Asparagus	98				

- **Top Reorder Products**, digunakan untuk mencari product dengan tingkat reorder tinggi.





Microsoft Excel output

Step name: Microsoft Excel output

#	Name	Type	Format
1	ID Product	String	
2	Product Name	String	
3	Total Reorder	BigNumber	0

Execution Results

Logging Execution History Step Metrics Performance Graph Metrics Preview data

2025/06/21 22:58:56 - Spoon - Transformation opened.
 2025/06/21 22:58:56 - Spoon - Launching transformation [KPI_Top Sales Product]...
 2025/06/21 22:58:56 - Spoon - Started the transformation execution.
 2025/06/21 22:58:57 - Spoon - The transformation has finished!!
 2025/06/21 23:39:10 - Spoon - Save file as...
 2025/06/21 23:39:23 - Spoon - Transformation opened.
 2025/06/21 23:39:23 - Spoon - Launching transformation [KPI_Top Reorder Products]...
 2025/06/21 23:39:23 - Spoon - Started the transformation execution.
 2025/06/21 23:39:25 - KPI_Top Reorder Products - Dispatching started for transformation [KPI_Top Reorder Products]
 2025/06/21 23:39:25 - Table input.0 - Finished reading query, closing connection
 2025/06/21 23:39:25 - Table input.0 - Finished processing (I=332, O=0, R=0, W=332, U=0, E=0)
 2025/06/21 23:39:25 - Sort rows.0 - Finished processing (I=0, O=0, R=332, W=332, U=0, E=0)
 2025/06/21 23:39:25 - Select values.0 - Finished processing (I=0, O=0, R=332, W=332, U=0, E=0)
 2025/06/21 23:39:25 - Microsoft Excel output.0 - Finished processing (I=0, O=332, R=332, W=332, U=0, E=0)
 2025/06/21 23:39:25 - Spoon - The transformation has finished!!

Berikut adalah file output berformat Excel

ID Product	Product Name	Total Reorder
87-199-2743	Papaya	100
74-610-2295	Green Coffee	100
20-387-7746	Powdered Sugar	100
46-911-1159	Onion	100
84-546-7624	Cherry	100

- Reorder Efficiency**, digunakan untuk mengevaluasi seberapa efektif proses pemesanan ulang (reorder) dalam menjaga ketersediaan stok atau memenuhi kebutuhan penjualan. Tujuan utamanya memastikan stok yang dipesan ulang tidak terlalu banyak.



Table input

Step name

Connection

SQL

```
SELECT f.Product_ID, p.Product_Name,
       AVG(f.Stock_Quantity / NULLIF(f.Reorder_Quantity, 0)) AS Reorder_Efficiency
FROM fact_inventory f
JOIN dimProduct p ON f.Product_ID = p.Product_ID
WHERE f.Status = 'Active'
GROUP BY f.Product_ID, p.Product_Name
```

Sort rows

Step name

Sort directory

TMP-file prefix

Sort size (rows in memory)

Free memory threshold (in %)

Compress TMP Files? ☐

Only pass unique rows? (verifies keys only) ☐

Fields:

#	Fieldname	Ascending	Case sensitive compare?	Sort based on current locale?	Collator Strength	Presort
1	Reorder_Efficiency	N	N	N	0	N

Step name

Select & Alter Remove Meta-data

Fields:

#	Fieldname	Rename to	Length	Precision
1	Product_ID			
2	Product_Name			
3	Reorder_Efficiency			

Select values

Step name

Select & Alter Remove Meta-data

Fields to alter the meta-data for:

#	Fieldname	Rename to	Type	Length	Precision
1	Product_ID	ID Product	None	20	
2	Product_Name	Product Name	None	17	
3	Reorder_Efficiency	Reorder Efficiency	None	18	8

Microsoft Excel output

Step name

File Content Custom Fields

Filename

Create Parent folder ☐

Do not create file at start ☐

Extension

Include stepnr in filename? ☐

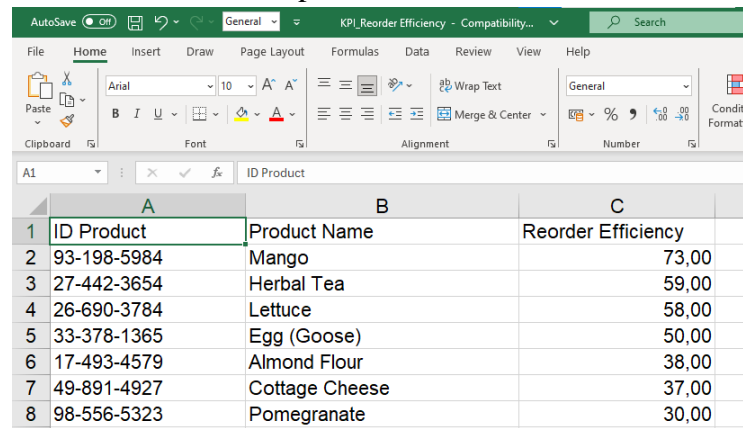
Microsoft Excel output

Step name

File Content Custom Fields

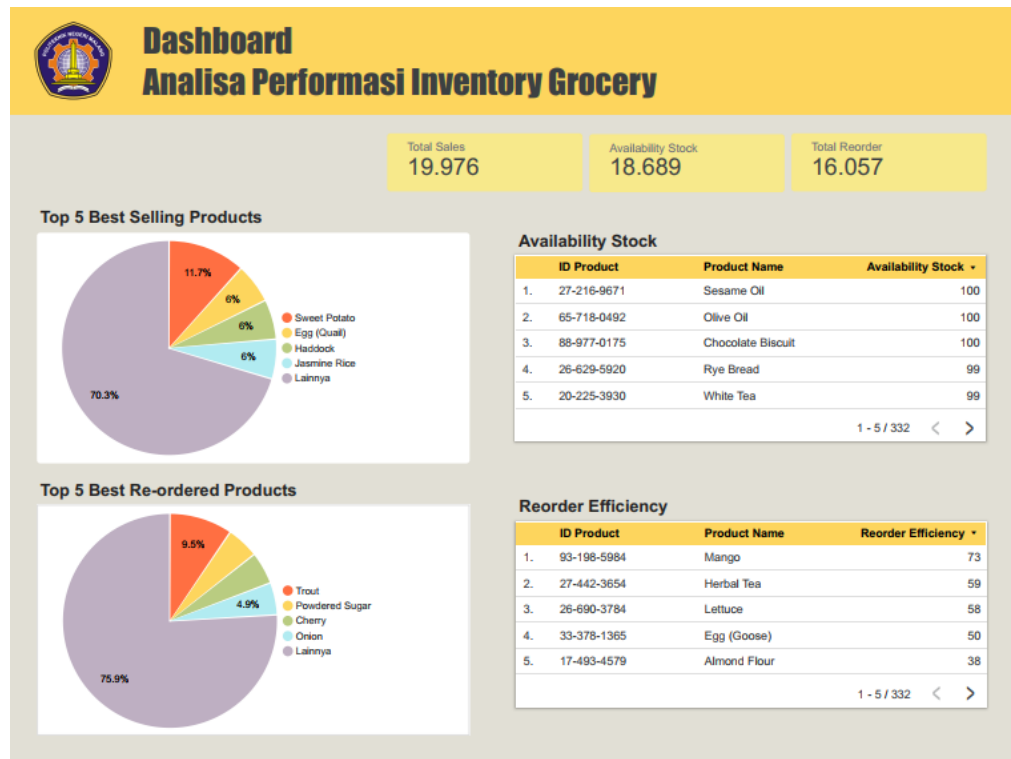
#	Name	Type	Format
1	ID Product	String	
2	Product Name	String	
3	Reorder Efficiency	BigNumber	0.00

Berikut adalah file output berformat Excel



ID Product	Product Name	Reorder Efficiency
93-198-5984	Mango	73,00
27-442-3654	Herbal Tea	59,00
26-690-3784	Lettuce	58,00
33-378-1365	Egg (Goose)	50,00
17-493-4579	Almond Flour	38,00
49-891-4927	Cottage Cheese	37,00
98-556-5323	Pomegranate	30,00

E. Visualisasi Data KPI



<https://lookerstudio.google.com/reporting/8b248b35-031d-4e02-a63a-01fc890f497d>