

# Kimia Farma Performance Analytics Business Year 2021 - 2023

Kimia Farma - Big Data Analytics

Presented by  
Mochammad Fathurohman

## Mochammad Fathurohman

My name is Mochammad Fathurohman. I have experience studying at Universitas Negeri Jakarta, majoring in Mechanical Engineering Education, from 2019 to 2023. However, I eventually decided to transfer my credits with 133 credits and a GPA of 3.20, with plans to continue my studies after I secure a job. Currently, I am seeking job opportunities that align with my interests and skills. I have solid skills in using office software and various programming languages such as R, Python, and SQL, as well as experience in using various software and data analysis tools. Although I did not complete my studies, I am confident and motivated to expand my knowledge and skills in the workforce.



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# Courses and Certification

**Data Analytics Mini Course by Revou | [Click here for certificate](#)**

**< Desember,2023 >**

**Google Data Analytics Professional Certification | [Click here for certificate](#)**

**< February,2024 >**



# About Company

Kimia Farma adalah perusahaan industri farmasi pertama di Indonesia yang didirikan oleh Pemerintah Hindia Belanda tahun 1817. Nama perusahaan ini pada awalnya adalah NV Chemicalien Handle Rathkamp & Co. Berdasarkan kebijaksanaan nasionalisasi atas eks perusahaan Belanda di masa awal kemerdekaan, pada tahun 1958, Pemerintah Republik Indonesia melakukan peleburan sejumlah perusahaan farmasi menjadi PNF (Perusahaan Negara Farmasi) Bhinneka Kimia Farma. Kemudian pada tanggal 16 Agustus 1971, bentuk badan hukum PNF diubah menjadi Perseroan Terbatas, sehingga nama perusahaan berubah menjadi PT Kimia Farma (Persero).

## Visi

Menjadi perusahaan **Healthcare** pilihan utama yang terintegrasi dan menghasilkan nilai yang berkesinambungan.

## Misi

1. Melakukan aktivitas usaha di bidang-bidang industri kimia dan farmasi, perdagangan dan jaringan distribusi, ritel farmasi dan layanan kesehatan serta optimalisasi aset.
2. Mengelola perusahaan secara **Good Corporate Governance** dan **operational excellence** didukung oleh Sumber Daya Manusia (SDM) profesional.
3. Memberikan nilai tambah dan manfaat bagi seluruh **stakeholder**.

# Project Portfolio

Sebagai seorang Big Data Analytics Intern di Kimia Farma, tugas saya akan mencakup serangkaian tantangan yang memerlukan pemahaman mendalam tentang data dan kemampuan analisis. Salah satu proyek utama saya adalah mengevaluasi kinerja bisnis Kimia Farma dari tahun 2020 hingga 2023. Berikut ini adalah task yang harus saya lakukan.

## Challenge

1. Membuat tabel Analisa dari dataset yang disediakan yaitu ***kf\_final\_transaction.csv***, ***kf\_inventory.csv***, ***kf\_kantor\_cabang.csv***, dan ***kf\_product.csv***.
2. Membuat visualisas/dashboard Performance Analytics Kimia Farma di Tahun 2020 - 2023, saya menggunakan Looker Studio dan stakeholder ingin mengetahui tentang:
  - Perbandingan Pendapatan Kimia Farma dari tahun ke tahun
  - Mengetahui Top 10 Total transaksi cabang provinsi
  - Mengetahui Top 10 Nett sales cabang provinsi
  - Mengetahui Top 5 Cabang dengan rating tertinggi, namun rating transaksi terendah
  - Melihat Total Profit Masing-masing Provinsi di Indonesia.

Repository Github [here!](#)

Project explanation video [here!](#)



# 1. Importing Dataset to BigQuery

Dari Google BigQuery saya Import dataset yang berjumlah 4 file berformat csv yang telah disediakan oleh Kimia Farma, dataset tersebut akan saya gunakan untuk membuat table analytics dengan ketentuan yang sudah diberikan, nama dan preview table sebagai berikut:

# 1. Importing Dataset to BigQuery

## 1. kf\_final\_transaction.

kf_final_transaction								
<a href="#">QUERY</a> <a href="#">SHARE</a> <a href="#">COPY</a> <a href="#">SNAPSHOT</a> <a href="#">DELETE</a> <a href="#">EXPORT</a>								
SCHEMA	DETAILS	PREVIEW	LINEAGE	DATA PROFILE	DATA QUALITY			
Row	transaction_id	date	branch_id	customer_name	product_id	price	discount_perce	rating
1	TRX5103706	2021-08-25	93529	Derrick Wright III	KF116	251700	0.1	3.0
2	TRX5388139	2020-12-29	24832	Elizabeth Ramos	KF116	251700	0.12	3.0
3	TRX7251897	2020-02-03	20505	Meghan Warner	KF116	251700	0.09	3.0
4	TRX4943675	2022-09-09	17678	Steven Roberts	KF116	251700	0.1	3.0
5	TRX3469820	2020-06-20	28315	Linda Bruce DDS	KF116	251700	0.07	3.0
6	TRX1213133	2021-09-17	22280	Cory Castro	KF116	251700	0.11	3.0
7	TRX2020131	2020-12-16	40028	Stephanie Boone	KF116	251700	0.03	3.0
8	TRX5015870	2022-08-17	41343	Mary Hughes	KF116	251700	0.03	3.0
9	TRX7064077	2021-06-21	86546	Tamara Bruce	KF116	251700	0.04	3.0
10	TRX5979742	2020-12-31	18235	Aaron Reed	KF116	251700	0.11	3.0
11	TRX2209141	2021-03-20	59571	Nancy Kennedy	KF116	251700	0.1	3.0
12	TRX5385534	2023-03-17	69280	Paul Morales	KF116	251700	0.11	3.0
13	TRX9155202	2020-04-11	29626	Stephen Jones	KF116	251700	0.02	3.0
14	TRX1702542	2022-09-15	48590	Zachary White	KF116	251700	0.12	3.0
15	TRX8205780	2022-10-19	37915	Jennifer Larsen	KF116	251700	0.13	3.0
16	TRX3208671	2023-12-20	66935	Michael Mccoy	KF116	251700	0.05	3.0
17	TRX2085415	2022-02-11	17678	Anthony Rice	KF116	251700	0.07	3.0
18	TRX1384968	2020-07-01	33691	Marissa Patterson	KF116	251700	0.03	3.0

Results per page: 50 1 - 50 of 672458

# 1. Importing Dataset to BigQuery

## 2. kf\_inventory.

kf_inventory							<a href="#">QUERY</a> <a href="#">SHARE</a> <a href="#">COPY</a> <a href="#">SNAPSHOT</a> <a href="#">DELETE</a> <a href="#">EXPORT</a>	
SCHEMA		DETAILS	PREVIEW	LINEAGE	DATA PROFILE	DATA QUALITY		
Row	Inventory_ID	branch_id	product_id	product_name	opname_stock			
1	INV1828570	14724	KF116	Psycholeptics drugs, Hypnotics...	0			
2	INV6358449	30475	KF116	Psycholeptics drugs, Hypnotics...	0			
3	INV8727436	24294	KF116	Psycholeptics drugs, Hypnotics...	0			
4	INV9842687	81965	KF116	Psycholeptics drugs, Hypnotics...	0			
5	INV6215728	67373	KF116	Psycholeptics drugs, Hypnotics...	0			
6	INV7363800	35354	KF116	Psycholeptics drugs, Hypnotics...	0			
7	INV3163646	15943	KF116	Psycholeptics drugs, Hypnotics...	0			
8	INV5179715	37402	KF116	Psycholeptics drugs, Hypnotics...	0			
9	INV5094212	22494	KF116	Psycholeptics drugs, Hypnotics...	0			
10	INV2346003	88089	KF116	Psycholeptics drugs, Hypnotics...	0			
11	INV1529487	85206	KF116	Psycholeptics drugs, Hypnotics...	0			
12	INV7542367	12558	KF116	Psycholeptics drugs, Hypnotics...	0			
13	INV8432097	76476	KF116	Psycholeptics drugs, Hypnotics...	0			
14	INV8007853	47105	KF116	Psycholeptics drugs, Hypnotics...	0			
15	INV2725297	73978	KF116	Psycholeptics drugs, Hypnotics...	0			
16	INV3768132	32084	KF116	Psycholeptics drugs, Hypnotics...	0			
17	INV4077441	12174	KF116	Psycholeptics drugs, Hypnotics...	0			
18	INV9415527	36486	KF116	Psycholeptics drugs, Hypnotics...	0			

Results per page: 50 1 – 50 of 1035000



# 1. Importing Dataset to BigQuery

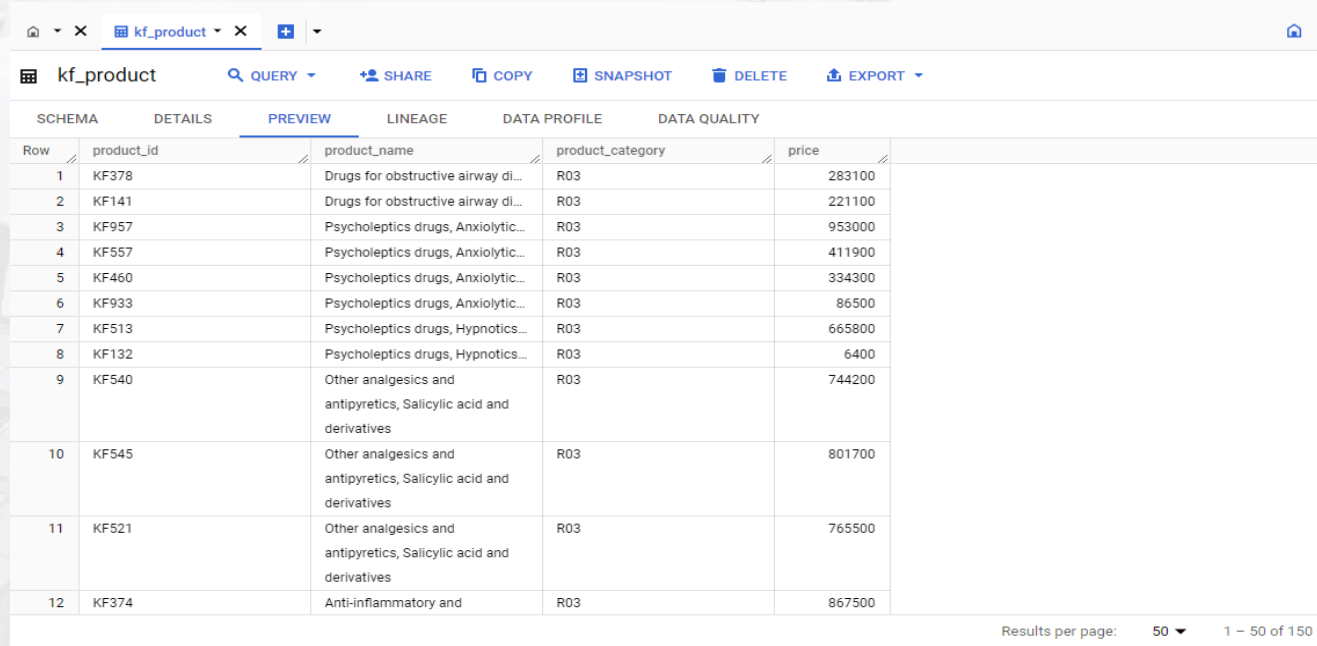
3. kf\_kantor\_cabang.

kf_kantor_cabang							
<a href="#">QUERY</a> <a href="#">SHARE</a> <a href="#">COPY</a> <a href="#">SNAPSHOT</a> <a href="#">DELETE</a> <a href="#">EXPORT</a>							
SCHEMA	DETAILS		LINEAGE	DATA PROFILE	DATA QUALITY		
Row	branch_id	branch_category	branch_name	kota	provinsi	rating	
1	36121	Apotek	Kimia Farma - Apotek	Bima	Nusa Tenggara Barat	4.9	
2	32325	Apotek	Kimia Farma - Apotek	Bima	Nusa Tenggara Barat	4.4	
3	37191	Apotek	Kimia Farma - Apotek	Bima	Nusa Tenggara Barat	3.9	
4	23248	Apotek	Kimia Farma - Apotek	Bima	Nusa Tenggara Barat	4.1	
5	46468	Apotek	Kimia Farma - Apotek	Bima	Nusa Tenggara Barat	4.7	
6	49606	Apotek	Kimia Farma - Apotek	Palu	Sulawesi Tengah	4.6	
7	99669	Apotek	Kimia Farma - Apotek	Palu	Sulawesi Tengah	4.2	
8	76351	Apotek	Kimia Farma - Apotek	Palu	Sulawesi Tengah	4.4	
9	82636	Apotek	Kimia Farma - Apotek	Palu	Sulawesi Tengah	4.7	
10	78158	Apotek	Kimia Farma - Apotek	Palu	Sulawesi Tengah	4.1	
11	39578	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.7	
12	55171	Apotek	Kimia Farma - Apotek	Ambon	Maluku	5.0	
13	11400	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.1	
14	38733	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.9	
15	93401	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.5	
16	68034	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.1	
17	59260	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.1	
18	49260	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.2	

Results per page: 50 1 - 50 of 1725

# 1. Importing Dataset to BigQuery

## 4. kf\_product.



The screenshot shows the BigQuery console interface for the 'kf\_product' dataset. The 'PREVIEW' tab is selected, displaying a table with 12 rows and 5 columns: product\_id, product\_name, product\_category, and price. The table lists various pharmaceutical products, including drugs for obstructive airway disease, psycholeptics, and analgesics. The 'price' column shows values ranging from 6400 to 765500. The interface includes navigation tabs (SCHEMA, DETAILS, PREVIEW, LINEAGE, DATA PROFILE, DATA QUALITY) and action buttons (QUERY, SHARE, COPY, SNAPSHOT, DELETE, EXPORT) at the top. The bottom of the console shows 'Results per page: 50' and '1 - 50 of 150'.

Row	product_id	product_name	product_category	price
1	KF378	Drugs for obstructive airway di...	R03	283100
2	KF141	Drugs for obstructive airway di...	R03	221100
3	KF957	Psycholeptics drugs, Anxiolytic...	R03	953000
4	KF557	Psycholeptics drugs, Anxiolytic...	R03	411900
5	KF460	Psycholeptics drugs, Anxiolytic...	R03	334300
6	KF933	Psycholeptics drugs, Anxiolytic...	R03	86500
7	KF513	Psycholeptics drugs, Hypnotics...	R03	665800
8	KF132	Psycholeptics drugs, Hypnotics...	R03	6400
9	KF540	Other analgesics and antipyretics, Salicylic acid and derivatives	R03	744200
10	KF545	Other analgesics and antipyretics, Salicylic acid and derivatives	R03	801700
11	KF521	Other analgesics and antipyretics, Salicylic acid and derivatives	R03	765500
12	KF374	Anti-inflammatory and	R03	867500

## 2. Tabel Analisa

Result tabel menghasilkan 16 kolom dengan jumlah baris 672458, dengan preview seperti gambar dibawah.

Row	transaction_id	date	branch_id	branch_name	kota	provinsi	rating_cabang	customer_name	product_id	product_name	actual_price	discount_percen	persentase_gro	nett_sales	nett_profit	rating_transacti
1	TRX5103706	2021-08-25	93529	Kimia Farma - Klinik & Apotek	Yogyakarta	DI Yogyakarta	4.3	Derrick Wright III	KF116	Psycholeptics drugs, Hypnotics...	251700	0.1	0.2	226530.0	45306.0	3.0
2	TRX5388139	2020-12-29	24832	Kimia Farma - Klinik-Apotek-La...	Pekanbaru	Riau	4.2	Elizabeth Ramos	KF116	Psycholeptics drugs, Hypnotics...	251700	0.12	0.2	221496.0	44299.2000...	3.0
3	TRX7251897	2020-02-03	20505	Kimia Farma - Apotek	Cilacap	Jawa Tengah	4.5	Meghan Warner	KF116	Psycholeptics drugs, Hypnotics...	251700	0.09	0.2	229047.0	45809.4	3.0
4	TRX4943675	2022-09-09	17678	Kimia Farma - Klinik & Apotek	Subang	Jawa Barat	4.8	Steven Roberts	KF116	Psycholeptics drugs, Hypnotics...	251700	0.1	0.2	226530.0	45306.0	3.0
5	TRX3469820	2020-06-20	28315	Kimia Farma - Klinik-Apotek-La...	Sukabumi	Jawa Barat	3.9	Linda Bruce DDS	KF116	Psycholeptics drugs, Hypnotics...	251700	0.07	0.2	234081.0	46816.2000...	3.0
6	TRX1213133	2021-09-17	22280	Kimia Farma - Apotek	Batam	Kepulauan Riau	4.5	Cory Castro	KF116	Psycholeptics drugs, Hypnotics...	251700	0.11	0.2	224013.0	44802.6000...	3.0
7	TRX2020131	2020-12-16	40028	Kimia Farma - Klinik-Apotek-La...	Balikpapan	Kalimantan Timur	4.0	Stephanie Boone	KF116	Psycholeptics drugs, Hypnotics...	251700	0.03	0.2	244149.0	48829.8	3.0
8	TRX5015870	2022-08-17	41343	Kimia Farma - Apotek	Semarang	Jawa Tengah	4.0	Mary Hughes	KF116	Psycholeptics drugs, Hypnotics...	251700	0.03	0.2	244149.0	48829.8	3.0
9	TRX7064077	2021-06-21	86546	Kimia Farma - Klinik & Apotek	Pematangsiantar	Sumatera Utara	4.5	Tamara Bruce	KF116	Psycholeptics drugs, Hypnotics...	251700	0.04	0.2	241632.0	48326.4	3.0
10	TRX5979742	2020-12-31	18235	Kimia Farma - Klinik & Apotek	Pekanbaru	Riau	4.8	Aaron Reed	KF116	Psycholeptics drugs, Hypnotics...	251700	0.11	0.2	224013.0	44802.6000...	3.0
11	TRX2209141	2021-03-20	59571	Kimia Farma - Klinik-Apotek-La...	Tarakan	Kalimantan Utara	4.9	Nancy Kennedy	KF116	Psycholeptics drugs, Hypnotics...	251700	0.1	0.2	226530.0	45306.0	3.0
12	TRX5385534	2023-03-17	69280	Kimia Farma - Klinik-Apotek-La...	Purwakarta	Jawa Barat	4.0	Paul Morales	KF116	Psycholeptics drugs, Hypnotics...	251700	0.11	0.2	224013.0	44802.6000...	3.0
13	TRX9155202	2020-04-11	29626	Kimia Farma - Klinik & Apotek	Bitung	Sulawesi Utara	4.6	Stephen Jones	KF116	Psycholeptics drugs, Hypnotics...	251700	0.02	0.2	246666.0	49333.2000...	3.0
14	TRX1702542	2022-09-15	48590	Kimia Farma - Klinik & Apotek	Garut	Jawa Barat	4.9	Zachary White	KF116	Psycholeptics drugs, Hypnotics...	251700	0.12	0.2	221496.0	44299.2000...	3.0
15	TRX8205780	2022-10-19	37915	Kimia Farma - Klinik & Apotek	Cianjur	Jawa Barat	3.9	Jennifer Larsen	KF116	Psycholeptics drugs, Hypnotics...	251700	0.13	0.2	218979.0	43795.8	3.0
16	TRX3208671	2023-12-20	66935	Kimia Farma - Klinik & Apotek	Madian	Jawa Timur	4.3	Michael McCoy	KF116	Psycholeptics drugs, Hypnotics...	251700	0.05	0.2	239115.0	47823.0	3.0
17	TRX2085415	2022-02-11	17678	Kimia Farma - Klinik & Apotek	Subang	Jawa Barat	4.8	Anthony Rice	KF116	Psycholeptics drugs, Hypnotics...	251700	0.07	0.2	234081.0	46816.2000...	3.0
18	TRX1384968	2020-07-01	33691	Kimia Farma - Klinik-Apotek-La...	Palu	Sulawesi Tengah	4.9	Marissa Patterson	KF116	Psycholeptics drugs, Hypnotics...	251700	0.03	0.2	244149.0	48829.8	3.0
19	TRX7358419	2020-01-19	19224	Kimia Farma - Apotek	Purwakarta	Jawa Barat	4.4	James Sanchez	KF116	Psycholeptics drugs, Hypnotics...	251700	0.15	0.2	213945.0	42789.0	3.0

# 3. BigQuery Syntax

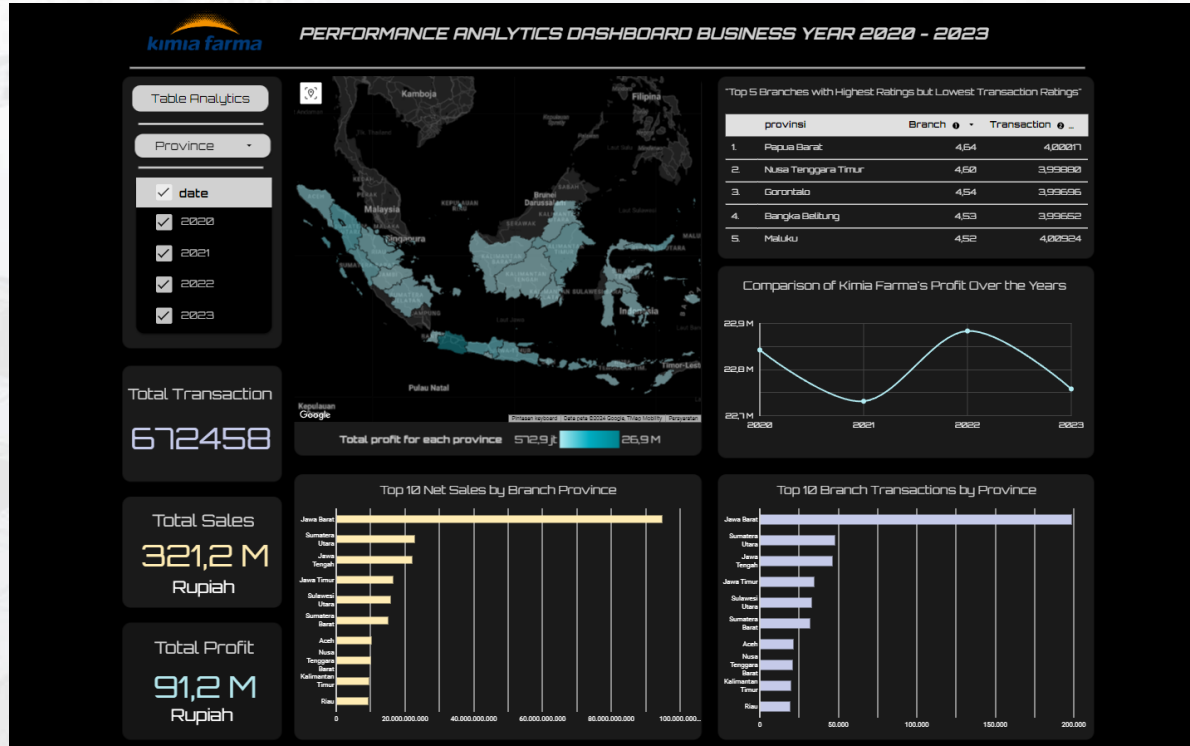
```
Google Cloud | Rakamin KF Analytics | Search (/) for resources, docs, products, and more | Search | [Icons]

Query_Rakamin_KF_Analytics [RUN] [SAVE VIEW] [MORE] | This query will process 47.76 MB when run.

1  -- Step 1: Creating a CTE to calculate the gross profit percentage based on product price.
2  -- First, we create a CTE (Common Table Expression) named PresentaseGrossLaba.
3  -- This is used to calculate the gross profit percentage based on different product prices.
4  -- This percentage will be used later to calculate the net profit.
5
6  WITH PresentaseGrossLaba AS (
7    SELECT DISTINCT
8      price,
9      product_id,
10     CASE
11       WHEN price <= 50000 THEN 0.1
12       WHEN price BETWEEN 50000 AND 100000 THEN 0.15
13       WHEN price BETWEEN 100000 AND 300000 THEN 0.20
14       WHEN price BETWEEN 300000 AND 500000 THEN 0.25
15       WHEN price > 500000 THEN 0.3
16     END AS percentase_gross_laba
17   FROM `kimia_farma.kf_final_transaction`
18 )
19
20 -- Step 2: Fetching data from tables and performing JOINS between relevant tables.
21 -- After creating the CTE, we perform a SELECT from the available tables: kimia_farma.kf_final_transaction, kimia_farma.kf_kantor_cabang, and kimia_farma.kf_product.
22 -- We fetch several columns from these tables and perform JOINS between them using the appropriate keys.
23
24 SELECT DISTINCT
25   FT.transaction_id,
26   FT.date,
27   FT.branch_id,
28   KC.branch_name,
29   KC.kota,
30   KC.provinsi,
31   KC.rating AS rating_cabang,
32   FT.customer_name,
33   FT.product_id,
34   P.product_name,
35   FT.price AS actual_price,
36   FT.discount_percentage,
37   PGL.percentase_gross_laba,
38   (FT.price - FT.price * FT.discount_percentage) AS nett_sales,
39   (FT.price - FT.price * FT.discount_percentage) * PGL.percentase_gross_laba AS nett_profit,
40   FT.rating AS rating_transaction
41 FROM
42   PresentaseGrossLaba AS PGL
43 JOIN
44   `kimia_farma.kf_final_transaction` AS FT ON PGL.product_id = FT.product_id
45 JOIN
46   `kimia_farma.kf_kantor_cabang` AS KC ON FT.branch_id = KC.branch_id
47 JOIN
48   `kimia_farma.kf_product` AS P ON PGL.product_id = P.product_id
```

[Click disini](#) untuk melihat tampilan query dalam file repository github saya

# 4. Dashboard Performance Analytics



[klik disini](#) untuk  
bisa berinteraksi  
dengan visualisasi



# Thank You

