

Finance, Supply Chain & Market Analytics

A Data Driven Presentation
Tool : SQL

Impact of this Project

- Improved data accessibility for analysts by creating centralized SQL database, streamlining reporting processes, effort saved each analyst over an hour weekly and generated data accuracy.
- Automated repetitive tasks using stored procedures, reducing manual effort by 40% and accelerating data processing efficiency. Optimized SQL performance with views, window functions, and database triggers, improving reporting speed and boosting API performance.

Understand the Data

- Dim_Customer- customer_code, customer, platform, channel, market, sub_zone, region
- Dim_product- product_code, division, segment, category, product, variant
- Fact_act_est- date, fiscal_year, product_code, customer_code, sold_quantity, forecast_quantity
- Fact_forecast_monthly- date, fiscal_year, product_code, customer_code, forecast_quantity
- Fact_freight_cost- market, fiscal_year, freight_pct, other_cost_pct

- fact_gross_price- product_code, fiscal_year, gross_price
- fact_manufacturing_cost- product_code, cost_year, manufacturing_cost
- fact_post_invoice_deductions- customer_code, product_code, date, discount_pct, other_deduction_pct
- fact_pre_invoice_deductions- customer_code, fiscal_year, pre_invoice_discount_pct
- fact_sales_monthly- date, fiscal_year, product_code, customer_code, sold_quantity

AtliQ
HARDWARE



Customer

cromā
The Electronics Megastore

**BEST
BUY**

STAPLES

Consumer



AtliQ
HARDWARE



Platforms

Brick & Mortar

cromā
The Electronics Megastore



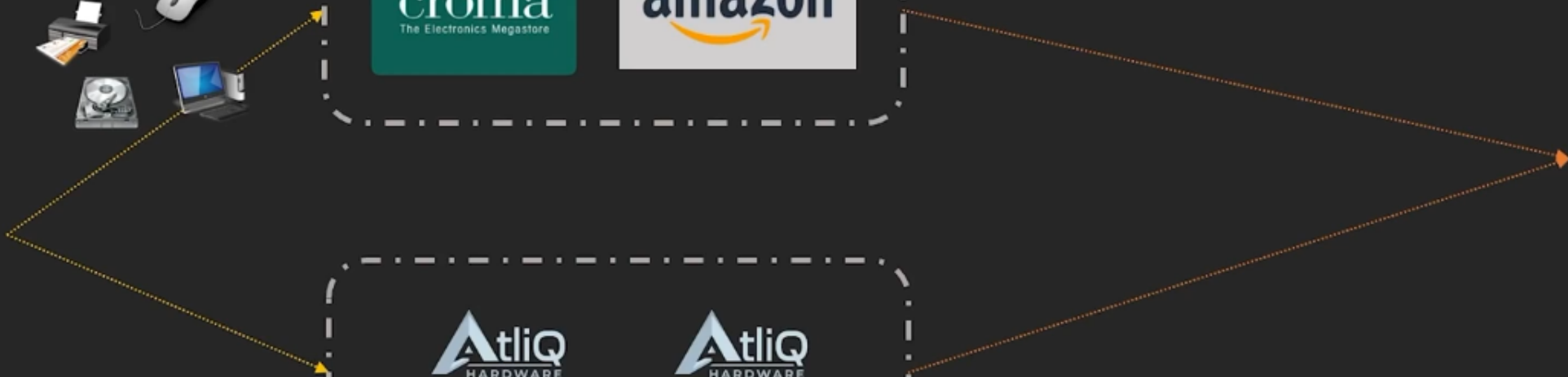
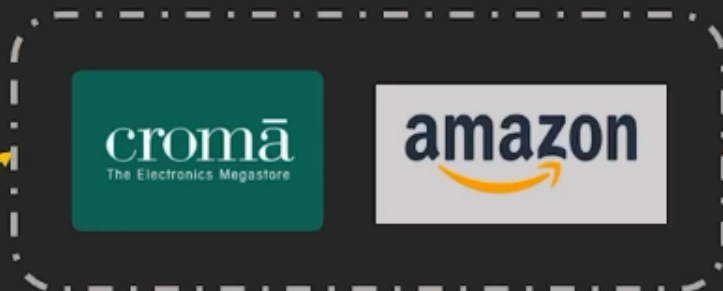
E-Commerce

amazon

flipkart.com



Retailer





Gross Price: 30 \$
- Pre-invoice Deduction: 2
= Net Invoice Sales: 28



Promotional offers





Gross Price: 30 \$
- Pre-invoice Deduction: 2
= Net Invoice Sales: 28



Promotional offers



Promotional offers

+

Placement Fees

+

Performance Rebate

=

Post-invoice Deductions



Gross Price: 30 \$
- Pre-invoice Deduction: 2
= Net Invoice Sales: 28



Promotional offers



Promotional offers

+

Placement Fees

+

Performance Rebate

=

Post-invoice Deductions

**Net sales is basically the
Revenue of AtliQ**



Gross Price: 30 \$

- Pre-invoice Deduction: 2

= Net Invoice Sales: 28

- Post-invoice Deductions: 3

= Net Sales: 25

cromã
The Electronics Megastore

The logo for cromã, featuring the brand name in a white, lowercase, serif font, with the tagline 'The Electronics Megastore' in a smaller, sans-serif font below it.



Gross Price: 30 \$

- Pre-invoice Deduction: 2

= Net Invoice Sales: 28

- Post-invoice Deductions: 3

= Net Sales: 25

- Cost Of Goods Sold (COGS): 20



Manufacturing Cost

+

Freight
(Transportation)

+

Other Cost

=

COGS

codebasics.io



Gross Price: 30 \$

- Pre-invoice Deduction: 2

= Net Invoice Sales: 28

- Post-invoice Deductions: 3

= Net Sales: 25

- Cost Of Goods Sold (COGS): 20

= Gross Margin: 5

Gross Margin % of Net Sales (GM/NS): 20 %



The logo for cromā, featuring the word 'cromā' in a lowercase serif font with a bar over the 'a', and the tagline 'The Electronics Megastore' in a smaller sans-serif font below it.

MySQL Workbench

SQL x

File Edit View Query Database Server Tools Scripting Help

dim_dates dim_customers dim_dates dim_products dim_products dim_customers SQL week2* fact_order_lines gdb0041 - Schema dim_customer x

Limit to 1000 rows

```
1 #Generate monthly gross sales report for Croma India for all the years
2 • SELECT
3     s.date,
4     SUM(ROUND(s.sold_quantity*g.gross_price,2)) as monthly_sales
5 FROM fact_sales_monthly s
6 JOIN fact_gross_price g
7     ON g.fiscal_year=get_fiscal_year(s.date) AND g.product_code=s.product_code
8 WHERE
9     customer_code=90002002
10 GROUP BY date;
```

Result Grid

date	monthly_sales
2017-09-01	122407.57
2017-10-01	162687.56
2017-12-01	245673.84
2018-01-01	123574.73

Result 2 x

Read Only Context Help Snippets

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SQL x

File Edit View Query Database Server Tools Scripting Help

dim_dates dim_customers dim_dates dim_products dim_products dim_customers SQL week2* fact_order_lines gdb0041 - Schema dim_customer x

Limit to 1000 rows

```
1 #Generate monthly gross sales report for Croma India for all the years
2 • SELECT
3     s.date,
4     SUM(ROUND(s sold quantity * s gross price, 2)) as monthly_sales
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

date	monthly_sales
2017-09-01	122407.57
2017-10-01	162687.56
2017-12-01	245673.84
2018-01-01	127574.73
2018-02-01	144799.54
2018-04-01	130643.92
2018-05-01	139165.06
2018-06-01	125735.36
2018-08-01	125409.90
2018-09-01	343337.14
2018-10-01	440562.10
2018-12-01	653944.72
2019-01-01	359025.06
2019-02-01	356607.19

Result 2 x

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MySQL Workbench

SQL x

File Edit View Query Database Server Tools Scripting Help

Navigator: dim_products dim_products dim_customers SQL week2* fact_order_lines gdb0041 - Schema dim_customer new_procedure - Routine x

SCHEMAS

Filter objects

food_db

gdb0041

Tables

- dim_customer
- dim_product
- fact_act_est
- fact_forecast_moi
- fact_freight_cost
- fact_gross_price
- fact_manufacturin
- fact_post_invoice
- fact_pre_invoice_
- fact_sales_month

Views

Stored Procedures

Functions

- f() get_fiscal_year

Administration Schemas

Information

Schema: gdb0041

Name: new_procedure

DDL:

```
1 • Create monthly gross sales report for any customer using stored procedure
2 CREATE PROCEDURE `get_monthly_gross_sales_for_customer` (
3     in_customer_codes TEXT
4
5 BEGIN
6     SELECT
7         s.date,
8         SUM(ROUND(s.sold_quantity*g.gross_price,2)) as monthly_sales
9     FROM fact_sales_monthly s
10    JOIN fact_gross_price g
11      ON g.fiscal_year=get_fiscal_year(s.date)
12     AND g.product_code=s.product_code
13
14    WHERE
15         FIND_IN_SET(s.customer_code, in_customer_codes) > 0
16
17    GROUP BY s.date
18    ORDER BY s.date DESC;
19 END
```

Routine

Apply Revert

Context Help Snippets

Output

Object Info Session

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MySQL Workbench

SQL x

File Edit View Query Database Server Tools Scripting Help

Navigation Schemas

gdb0041

Tables

- dim_customer
- dim_product
- fact_act_est
- fact_forecast_mo
- fact_freight_cost
- fact_gross_price
- fact_manufacturin
- fact_post_invoice
- fact_pre_invoice_
- fact_sales_month

Views

Stored Procedures

- get_monthly_gros

Functions

- get_fiscal_year

Administration Schemas

Information

Procedure: get_monthly_gross_sales

1 • SELECT * FROM gdb0041.dim_customer;

Call stored procedure gdb0041.get_monthly_gross_sales_f...

Enter values for parameters of your procedure and click <Execute> to create an SQL editor and run the call:

in_customer_codes 70002017 [IN] TEXT

Execute Cancel

Result Grid

	customer_code	customer	platform	channel	market	sub_zone	region
▶	70002017	Atliq Exclusive	Brick & Mor...	Direct	India	India	APAC
	70002018	Atliq e Store	E-Commerce	Direct	India	India	APAC
	70003181	Atliq Exclusive	Brick & Mor...	Direct	Indonesia	ROA	APAC
	70003182	Atliq e Store	E-Commerce	Direct	Indonesia	ROA	APAC
	70004069	Atliq Exclusive	Brick & Mor...	Direct	Japan	ROA	APAC
	70004070	Atlin e Store	E-Commerce	Direct	Japan	ROA	APAC

m_customer 1 x

Output

Apply Revert Context Help Snippets

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MySQL Workbench

SQL x

FileEditViewQueryDatabaseServerToolsScriptingHelp

SQL

SQL

customersSQL week2*fact_order_linesgdb0041 - Schema dim_customerget_monthly_gross_sales_for_c...dim_customerget_monthly_g

SCHEMAS

Filter objects

food_db

gdb0041

Tables

dim_customer

dim_product

fact_act_est

fact_forecast_moi

fact_freight_cost

fact_gross_price

fact_manufacturin

fact_post_invoice

fact_pre_invoice_

fact_sales_month

Views

Stored Procedures

get_monthly_gros

Functions

get_fiscal_year

Administration

Schemas

Information

Procedure:

get_monthly_gross_sales

Object Info

Session

Limit to 1000 rows

1 •

call gdb0041.get_monthly_gross_sales_for_customer('70002017');

2

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

date	monthly_sales
2020-06-01	373608.12
2020-05-01	141688.36
2020-03-01	73450.40
2020-02-01	800597.27
2020-01-01	846562.03
2019-11-01	1439573.15

Result 1 x

Read Only

Context Help

Snippets

Result Grid

Form Editor

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MySQL Workbench

SQL

FileEditViewQueryDatabaseServerToolsScriptingHelp

SQL

SQL

Limit to 1000 rows

Navigator

customersSQL week2*fact_order_linesgdb0041 - Schema dim_customerget_monthly_gross_sales_for_c...dim_customerget_monthly_g

SCHEMAS

Filter objects

food_db

gdb0041

Tables

dim_customer

dim_product

fact_act_est

fact_forecast_mon

fact_freight_cost

fact_gross_price

fact_manufacturin

fact_post_invoice

fact_pre_invoice

fact_sales_month

Views

Stored Procedures

get_monthly_gross

Functions

get_fiscal_year

AdministrationSchemas

Information

Procedure:

get_monthly_gross_sales

Object InfoSession

1 • call gdb0041.get_monthly_gross_sales_for_customer('70002017');

2

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	date	monthly_sales
▶	2021-11-01	17875470.05
	2021-10-01	14459080.70
	2021-09-01	11179020.17
	2021-07-01	2278277.66
	2021-06-01	2220452.77
	2021-05-01	2264978.53
	2021-03-01	2395110.01
	2021-02-01	2411259.81
	2021-01-01	2259789.01
	2020-11-01	3976591.85
	2020-10-01	3076991.43
	2020-09-01	2360693.48
	2020-07-01	436498.10
	2020-06-01	373608.12

Result 1 x

Read Only

Context Help

Snippets

SQLAdditions

My Snippets

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SCHEMAS

Filter objects

- food_db
- gdb0041
 - Tables
 - dim_custoi
 - dim_produ
 - fact_act_e
 - fact_forec
 - fact_freigh
 - fact_gross
 - fact_manul
 - fact_post_
 - fact_pre_ir
 - fact_sales_
 - Views
 - Stored Procedi
 - get_month
 - Functions
 - get_fiscal

Administration Schemas

Information

Schema:
gdb0041

Name: new_procedure

The name of the routine is parsed automatically from the DDL statement. The DDL is parsed automatically while you type.

DDL:



```
1 Write a stored proc that can retrieve market badge. i.e. if total sold quantity > 5 million that market is considered "Gold" else "Silver"
2 CREATE PROCEDURE `get_market_badge` (
3     IN in_market VARCHAR(45),
4     IN in_fiscal_year YEAR,
5     OUT out_level VARCHAR(45)
6 )
7 BEGIN
8     DECLARE qty INT DEFAULT 0;
9
10    # Default market is India
11    IF in_market = "" THEN
12        SET in_market="India";
13    END IF;
14
15    # Retrieve total sold quantity for a given market in a given year
16    SELECT
17        SUM(s.sold_quantity) INTO qty
18    FROM fact_sales_monthly s
19    JOIN dim_customer c
20    ON s.customer_code=c.customer_code
21    WHERE
22        get_fiscal_year(s.date)=in_fiscal_year AND
23        c.market=in_market;
24
25    # Determine Gold vs Silver status
26    IF qty > 5000000 THEN
```

Routine

Apply

Revert

Context Help

Snippets

Object Info Session

Output



MySQL Workbench

SQL

FileEditViewQueryDatabaseServerToolsScriptingHelp

SQL

SQL

Navigator

esgdb0041 - Schema

dim_customer

get_monthly_gross_sales_for_c...

dim_customer

get_monthly_gross_sales_for_c...

new_procedure - Routine

SQLAdditions

My Snippets

SCHEMAS

Filter objects

food_db

gdb0041

Tables

dim_custoi

dim_produ

fact_act_e

fact_forec

fact_freigh

fact_gross

fact_manul

fact_post_

fact_pre_ir

fact_sales_

Views

Stored Procedi

get_month

Functions

get_fiscal

AdministrationSchemas

Information

Schema:gdb0041

Name: new_procedure

The name of the routine is parsed automatically from the DDL statement. The DDL is parsed automatically while you type.

DDL

8

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DECLARE qty INT DEFAULT 0;

Default market is India

IF in_market = "" THEN

SET in_market="India";

END IF;

Retrieve total sold quantity for a given market in a given year

SELECT

SUM(s.sold_quantity) INTO qty

FROM fact_sales_monthly s

JOIN dim_customer c

ON s.customer_code=c.customer_code

WHERE

get_fiscal_year(s.date)=in_fiscal_year AND

c.market=in_market;

Determine Gold vs Silver status

IF qty > 5000000 THEN

SET out_level = 'Gold';

ELSE

SET out_level = 'Silver';

END IF;

END

Routine

ApplyRevert

Context HelpSnippets

Object Info

Session

Output

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Call stored procedure gdb0041.get_market_badge



Enter values for parameters of your procedure and click <Execute> to create an SQL editor and run the call:

in_market

[IN]

VARCHAR(45)

in_fiscal_year

[IN]

YEAR

out_level





[OUT]

VARCHAR(45)

Execute

Cancel


```
2 •      select * from
3         (select
4           *,
5           row_number() over (partition by category order by amount desc) as row_num
6         from random_tables.expenses) x
7 where x.row_num<3
```

Result Grid			 Filter Rows: <input type="text"/>	Export: 	Wrap Cell Content: 
	date	description	category	amount	row_num
▶	2022-10-25	A2B restaurant	Food	6000	1
	2022-10-02	Macdonalds	Food	2700	2
	2022-10-18	Thakur saris	Shopping	23000	1
	2022-10-02	Croma store	Shopping	13000	2
	2022-10-05	PSEG electricity bill	Utilities	7000	1
	2022-10-17	Verizon wireless	Utilities	2300	2



Limit to 1000 rows



```
1 #Find out top 3 products from each division by total quantity sold in a given year
2 • with cte1 as
3     (select
4         p.division,
5         p.product,
6         sum(sold_quantity) as total_qty
7     from fact_sales_monthly s
8     join dim_product p
9         on p.product_code=s.product_code
10    where fiscal_year=2021
11    group by p.product),
12 cte2 as
13     (select
14         *,
15         dense_rank() over (partition by division order by total_qty desc) as drnk
16     from cte1)
17 select * from cte2 where drnk<=3
18
```



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```
1 #Find out top 3 products from each division by total quantity sold in a given year
2 • with cte1 as
3     (select
4         p.division,
```

	division	product	total_qty	drnk
▶	N & S	AQ Pen Drive DRC	2034569	1
	N & S	AQ Digit SSD	1240149	2
	N & S	AQ Clx1	1238683	3
	P & A	AQ Gamers Ms	2477098	1
	P & A	AQ Maxima Ms	2461991	2
	P & A	AQ Master wireless x1 Ms	2448784	3
	PC	AQ Digit	135092	1
	PC	AQ Gen Y	135031	2
	PC	AQ Elite	134431	3

Supply Chain

- Sold Quantity
- Forecast Quantity
- Net_Error

THANK YOU