Data Analytics Agent (smol)

“For when people bother you for adhoc requests”

You have many tables, that links to each other

Invoice Table

invoice_id	timestamp	subtotal	gst	total	origin_address_id	origin_address_type
1	2025-02-06 13:45:43.679803+00	364	36	400	1	1
2	2025-02-03 13:45:43.679803+00	227.5	22.5	250	4	2
3	2025-01-26 13:45:43.679803+00	500.5	49.5	550	2	1
4	2025-01-22 13:45:43.679803+00	364	36	400	4	2
5	2025-01-17 13:45:43.679803+00	910	90	1000	2	1
6	2025-01-10 13:45:43.679803+00	728	72	800	3	1
7	2024-12-26 13:45:43.679803+00	910	90	1000	3	1
8	2024-12-21 13:45:43.679803+00	364	36	400	5	2
9	2024-12-11 13:45:43.679803+00	637	63	700	5	2
10	2025-12-06 13:45:43.679803+00	728	72	800	5	2

Invoice Item

id	invoice_id	product_id	quantity	price	line_total
1	1	1	1	200	200
2	1	2	2	100	200
3	2	3	5	50	250
4	3	1	2	200	400
5	3	3	7	50	350
6	4	1	2	200	400
7	5	2	10	100	1000
8	6	1	1	200	200
9	6	2	6	100	600
10	7	1	5	200	1000
11	8	1	2	200	400
12	9	2	7	100	700
13	10	3	20	40	800

Product Table

id	product_code	name
1	D0001	Helicopter Drone
2	R0001	Robot Dolly
3	T0001	Motorized Tripod

Outlet Table

id	name	address_id
1	Outlet 1	1
2	Outlet 2	2
3	Outlet 3	3

Warehouse Table

id	name	address_id
1	Warehouse 1	4
2	Warehouse 2	5

Total Sales By Location

Outlet 1	400
Outlet 2	1550
Outlet 3	1800
Warehouse 1	650
Warehouse 2	1900

Address

id	street	postal code
1	outlet 1 street	123
2	outlet 2 street	1234
3	outlet 3 street	12345
4	outlet 4 street	123456
5	outlet 5 street	1234567

And when stakeholders make an adhoc request,

Please track all invoices by location and create a bar chart where x axis is outlet or warehouse name and y axis is sales amount

automate away !

Text2SQL & Code-Generated Visualisation

Chatbot

...minance in Outlet 3. These findings suggest outlet-specific strategies may be necessary to optimize sales for each product.

Please track all invoices by location and create a bar chart where x axis is outlet or warehouse name and y axis is sales amount

Our analysis reveals a significant variation in sales performance across different locations, with Outlet 3 and Warehouse 2 being the top-performing outlets. The data suggests that warehouses tend to generate higher sales compared to outlets, with an average sales amount of $1225 for warehouses versus $978 for outlets. This insight can inform strategic decisions on resource allocation and optimization of sales channels.

Select a Default Prompt

- I want to find out how D0001 and R0001 perform across outlets 1 to 3. Please output the results in a table where column headers are outlet names and row headers are product names
- I want to find out what percentage of my total sales come from warehouse sales
- (●) Please track all invoices by location and create a bar chart where x axis is outlet or warehouse name and y axis is sales amount

Enter message or upload file...

Debug

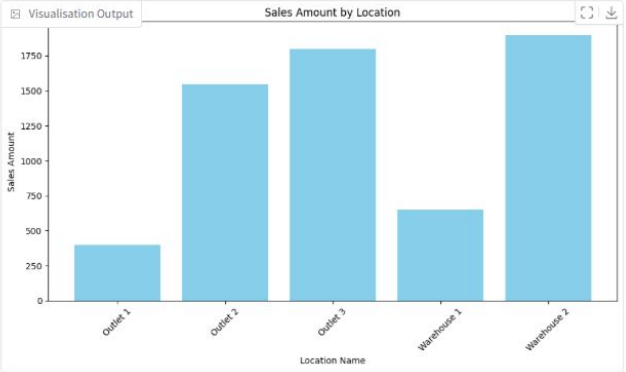
Data retrieved

location_name	sales_amount
Outlet 1	400
Outlet 2	1550
Outlet 3	1800
Warehouse 1	650
Warehouse 2	1900

Text2SQL result

```
SELECT COALESCE(o.name, w.name) AS location_name,
    SUM(i.total) AS sales_amount
FROM datachat_invoice i
LEFT JOIN datachat_outlet o ON i.origin_address_id = o.address_id
AND i.origin_address_type = 1
LEFT JOIN datachat_warehouse w ON i.origin_address_id = w.address_id
AND i.origin_address_type = 2
GROUP BY location_name;
```

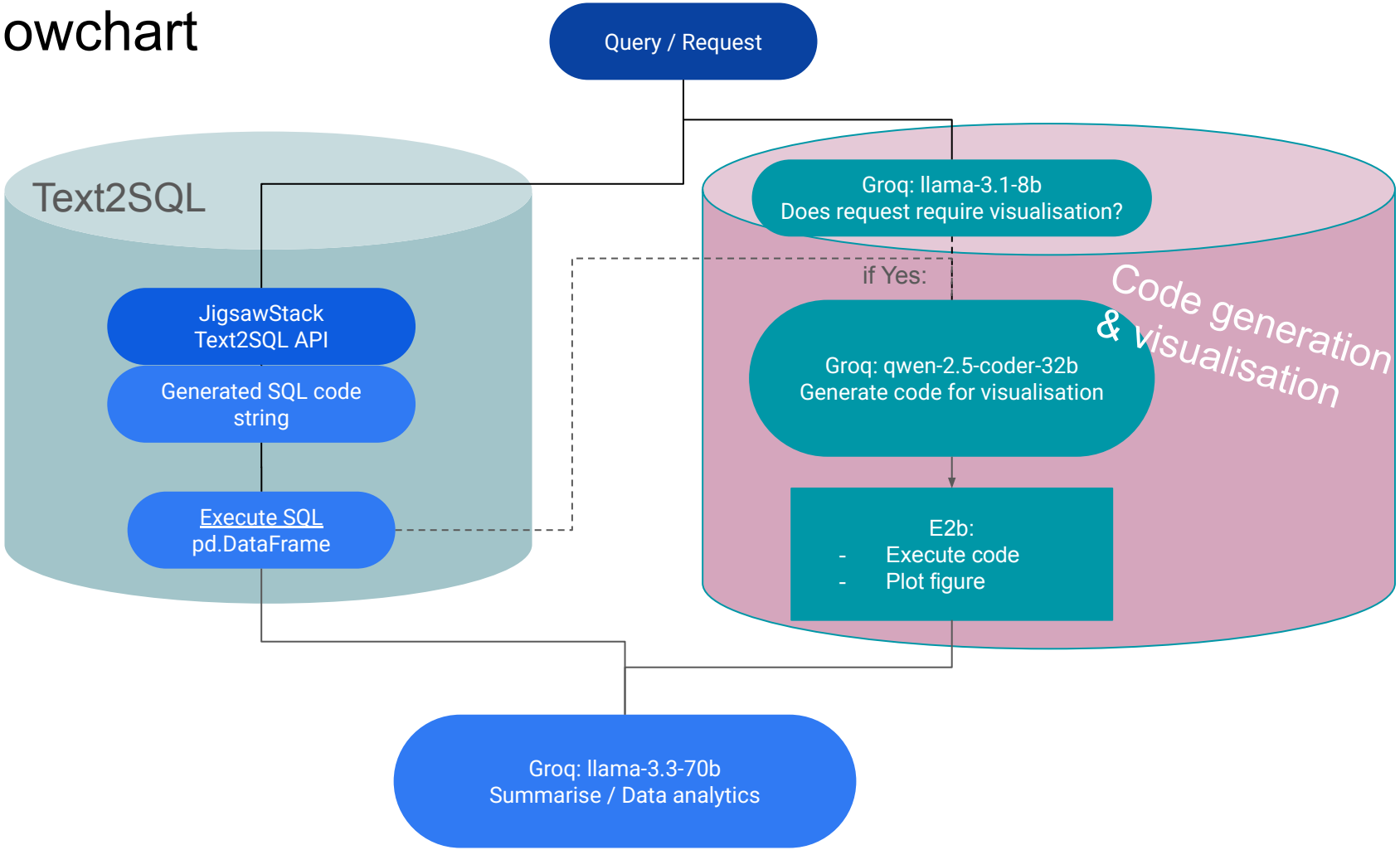
Visualisation Output



Code Output

```python
import matplotlib.pyplot as plt

def plot_sales_by_location(location_name, sales_amount):
    # Create a bar chart
    plt.figure(figsize=(10, 6))
    plt.bar(location_name, sales_amount, color='skyblue')

    # Add titles and labels
    plt.title('Sales Amount by Location')
    plt.xlabel('Location Name')
    plt.ylabel('Sales Amount')

    # Rotate x-axis labels for better readability if needed
    plt.xticks(rotation=45)

    # Display the plot
    plt.tight_layout()
    plt.show()

# Data
location_name = ['Outlet 1', 'Outlet 2', 'Outlet 3', 'Warehouse 1', 'Warehouse
sales_amount = [400, 1550, 1800, 650, 1900]

# Call the function to plot the data
plot_sales_by_location(location_name, sales_amount)
```

Flowchart


Query / Request
Text2SQL
JigsawStack
Text2SQL API
Generated SQL code
string
Execute SQL
pd.DataFrame
Groq: llama-3.1-8b
Does request require visualisation?
if Yes:
Code generation
& visualisation
Groq: qwen-2.5-coder-32b
Generate code for visualisation
E2b:
- Execute code
- Plot figure
Groq: llama-3.3-70b
Summarise / Data analytics