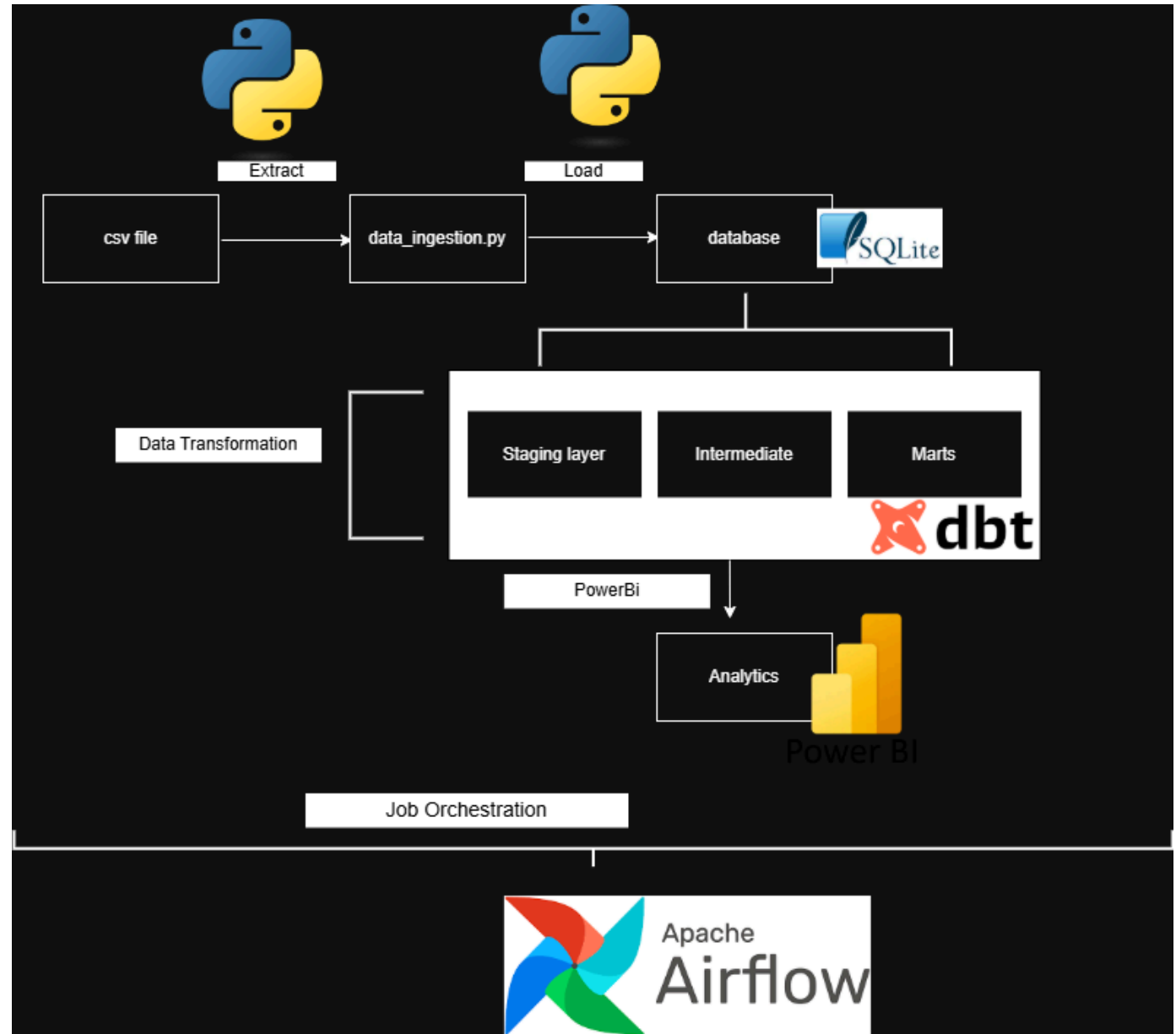# Data Architecture

Airflow will be recommended for the job Orchestration because of its popularity and great community support that one can leverage on when running into issues.

Key Insights:

1. Revenue & Delivery Performance
- Total Revenue: **1.46M** (**with 20% from delivered order**s).
- Delivery Challenges: **18%** of revenue tied to *cancelled* orders, **21%** to *returned* orders (highest among all statuses).

2. Product Category Analysis
- Top Performers:
- *Food & Beverage* (**21%** revenue share, **₦309K**) and *Home Goods* (20%, ₦296K) lead in revenue, *Books* and *Clothing* follow closely (~19% each).

3. Top-Selling Product name
- Best Performers:
- *Jeans* (**₦75K**, **11%** revenue share) and *Tablet* (**₦72K, 11%**) drive sales.
- *Energy Drink* and *History Book* also contribute significantly (*~10%* each).
- Lowest Margin: *Organic Tea* (9.3% revenue) has the lowest average sales (₦750). Test pricing or marketing tactics to improve its performance.

4. Customer Behavior
- Avg. Order Value (Delivered): **₦744**
- High-Value Products: *Air Fryer* (₦885/order) and *History Book* (**₦785/order**) have the highest average sales.

5. Monthly Trends
- Revenue Peaks: Observe spikes in the month of October, 2023 with ~**140K** and **563** in *value and count* respectively.

Key Recommendations:

Reduce Cancellations/Returns:
- Optimize product descriptions and images to set accurate expectations.
- Offer incentives for keeping returned items (e.g., discounts on future purchases).

Boost Electronics Sales:
- Electronics has the lowest average sales per order **(₦666)**. Consider bundling strategies or promotions to boost order value.

Promote High-Performing Products:
- sponsor *Jeans*, *Tablets*, and *Air Fryers* in targeted ads or homepage banners.

Improve Low Performers:
- Run A/B tests on pricing/packaging for *Organic Tea* and *Protein Bars*.

Leverage Seasonal Trends:
- Plan inventory and marketing around revenue peaks (e.g., holidays).

Performance Dashboard

Total Revenue	Quantity sold	No. of customers	Avg. order value (Delivered)
1.46M	**5.98K**	**877**	**744.13**

Total Revenue by delivery_status

Cancelled 265.3K (18.18%)
Returned 306.75K (21.02%)
Pending 288.97K (19.8%)
Shipped 304.25K (20.85%)
Delivered 293.93K (20.14%)
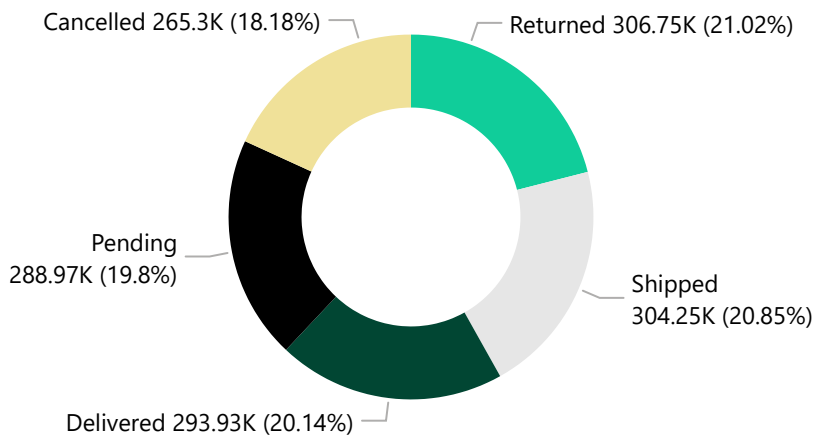
Product_category	Total revenue	Total Quantity sold	% Contr. to total_revenue	Avg, Sales per order
Books	290,842.23	1217	19.93%	817.68
Clothing	289,321.82	1240	19.83%	715.81
Electronics	273,443.00	1141	18.74%	666.88
Food & Beverage	309,586.46	1220	21.22%	785.58
Home Goods	296,016.09	1162	20.29%	728.91

Product_name	Total revenue ▾	%Contr. to Total revenue	Average sales	Quantity sold	No. of Customer
Jeans	75,000.20	11.18%	833.34	299	83
Tablet	72,398.35	10.79%	770.20	280	91
Energy Drink	67,624.81	10.08%	814.76	266	81
History Book	67,488.11	10.06%	784.75	271	78
Air Fryer	67,248.90	10.02%	884.85	253	72
Dress	65,890.66	9.82%	732.12	276	87
Science Book	64,625.77	9.63%	734.38	253	83
Protein Bar	64,329.54	9.59%	684.36	260	89
Toaster	64,103.20	9.55%	712.26	260	86
Organic Tea	62,307.67	9.29%	750.69	247	79

Trend of Total sales and Quantity sold per month

● Total Revenue ● Quantity

Month	Total Revenue	Quantity
2022-12	8K	26
2023-01	117K	435
2023-02		448
2023-03	127K	486
2023-04		458
2023-05	128K	536
2023-06	111K	483
2023-07		441
2023-08	124K	510
2023-09		503
2023-10	140K	563
2023-11		596
2023-12	121K	495