**Project Goal**

**Build a reporting solution** (Excel/Power BI connected to PostgreSQL) that helps the **Sales Strategy Team** answer critical business questions like:

1. **Which regions and states are our top-performing in terms of sales and product mix?**
2. **Which customer segments (e.g., Consumer, Corporate) are most valuable?**
3. **What product categories/sub-categories are driving sales trends?**
4. **How fast are we delivering orders (Order Date vs Ship Date)?**
5. **Which customers should be targeted for loyalty or upsell campaigns?**
6. **Monthly sales and seasonality trends**
7. **Dynamic filtering/reporting by region, category, customer, and time**

**Deliverables**

**✅ 1. Clean and Normalize the Data**

* Use **Power Query** to:
  + Remove duplicates
  + Format date fields
  + Separate **Order Line Items** from **Order Headers** (grouping logic)
  + Handle nulls and errors
  + Generate dimension tables: Customers, Products, Orders, Dates, Regions

**✅ 2. Load into PostgreSQL**

* Design a star schema:
  + Fact Table: fact\_orders
  + Dim Tables: dim\_customers, dim\_products, dim\_regions, dim\_dates
* Write ETL scripts to load transformed data from Power Query/Excel into PostgreSQL.

**✅ 3. DAX Measures in Excel/Power BI**

* Create KPIs:
  + Total Sales
  + Sales by Region, Category, Segment
  + Average Delivery Days
  + Top 10 Customers (by revenue)
  + Month-over-Month and YoY growth % measures

**✅ 4. Dashboard**

* Interactive dashboard in Excel or Power BI with:
  + Slicers for Region, Segment, Time
  + Charts: Bar (Top Products), Line (Trends), Map (Geographic)
  + KPI cards: Sales, Growth %, Avg Delivery Time

**✅ 5. Automation (Optional)**

* Use **VBA** to:
  + Refresh dashboards on opening
  + Generate monthly PDF reports by region
  + Email summary report to predefined stakeholders

**Bonus Points**

* Add **customer segmentation** (based on RFM or total sales)
* Use **Power Query parameters** for dynamic date filtering
* Document the **data model and ETL process** for internal use

**📅 Timeline**

* Data Cleaning & Model Design: 3–4 days
* PostgreSQL Integration: 2 days
* DAX Calculations: 2 days
* Dashboard & Automation: 2–3 days
* Documentation & Handover: 1 day