**Project Documentation: Sales Dashboard using SalesData & MasterData**

**Data Sources**

* **Files Used:**
  + masterdata.xlsx (contains 3 sheets: *Employees, Products, Customers*).
  + salesdata.txt (serves as the **Fact Table**).

**Data Preparation & Cleaning Steps**

1. **Loading Master Data**
   * Loaded masterdata.xlsx as a **workbook**, not as individual sheets.
   * Created *connection only* queries for all three sheets.
   * Created references for each sheet: Employees, Products, Customers.
   * Checked and corrected **data types**.
   * Trimmed unnecessary spaces and ensured consistency.
2. **Fact Table (Sales Data)**
   * Loaded salesdata.txt into Power Query.
   * Created a **calculated column for Sales Amount** = Quantity × Unit Price.
   * This ensured the measure was available directly in PivotTables and charts later.
3. **Date Table Creation**
   * Duplicated the Sales Data table to extract a **Date Table**.
   * Extracted columns: *Date, Month, Month Name, Last Day of Month*.
   * Removed duplicates to keep unique dates.
   * Created a calculated column **Month Flag**:
     + *Last Month* → if Date = Max(Date).
     + *Previous Month* → if Date = Max(Date) – 1 month.
   * Loaded this Date Table into the Data Model.
4. **Data Model Relationships**
   * Linked **Fact Sales** to:
     + Date Dimension (via Date).
     + Employees, Products, Customers (via respective keys).
   * Ensured a **star schema** for efficient reporting.

**Dashboard Development**

**Calculation Sheet**

* Created **PivotTables** for key calculations:
  + **Last Month Sales** → Filtered Month Flag = Last.
  + **Previous Month Sales** → Filtered Month Flag = Previous.
  + Exported results into helper cells using *Paste Link* for **dynamic updates**.
* Calculated **Month-over-Month Change**:
  + (Last Month – Previous Month) / Previous Month.

**Dashboard Components**

1. **Month-over-Month Sales Comparison**
   * Shape visuals showing Last vs. Previous Month sales.
   * Included % change calculation.
2. **Top 3 Sales Managers**
   * PivotTable filtered by Month Flag = Last.
   * Rows: *Employee Full Name*.
   * Values: *Sum of Sales Amount*.
   * Filtered to **Top 3 managers**.
   * Title dynamically updated using Month Flag reference.
3. **Sales by Product Category (MoM % Change)**
   * Columns: *Month Flag* (Last, Previous).
   * Rows: *Product Group*.
   * Values: *Sum of Sales Amount*.
   * Calculated % change per category (Last vs Previous).
4. **Top 5 Sales Customers (Bar Chart)**
   * Filtered by Month Flag = Last.
   * Rows: *Customer Name*.
   * Values: *Sum of Sales Amount*.
   * Limited to **Top 5 customers**.
   * Connected to **Product Category slicer** for dynamic breakdown.
5. **Top 5 Sales Employees (Bar Chart)**
   * Similar to Customers chart.
   * Filtered by Month Flag = Last.
   * Rows: *Employee Full Name*.
   * Values: *Sum of Sales Amount*.
   * Limited to **Top 5 employees**.
   * Connected to the same **Product Category slicer**.
6. **Sales by Month (Line Chart)**
   * Rows: *Start of Month*.
   * Values: *Sum of Sales Amount*.
   * Displayed as a **line chart**.
   * Formatting applied:
     + Display values in **millions** with 2 decimal places.
     + Added **currency symbols**.
     + General readability improvements.

**Final Dashboard Layout**

* **Calculation Sheet:** PivotTables, helper cells, dynamic references.
* **Dashboard Sheet:** Interactive visuals including:
  + Month-over-Month comparison.
  + Top 3 Sales Managers.
  + Sales by Product Category with MoM % change.
  + Top 5 Customers & Employees (interactive via Product Category filter).
  + Sales by Month trend (line chart).
* Layout designed for **clarity, interactivity, and consistency**.

**Project Overview**

This project demonstrates the **end-to-end process** of building an Excel Dashboard using **Power Query, Data Modeling, and PivotTables**.  
Raw sales and master data were cleaned, transformed, and structured into a star schema. A custom Date Table enabled dynamic time intelligence (Last Month vs. Previous Month).  
The dashboard provides insights such as **MoM sales changes, top performers, and category trends**, with interactivity via filters. This approach simulates real-world reporting and highlights how Excel can be used as a **lightweight yet powerful BI tool**.