Online Retail Sales Database Design

This project is about creating a database for an online shopping website. The database will store all the important information like customer details, products, orders, and payments. It will help manage the business smoothly by keeping the data organized and easy to access.

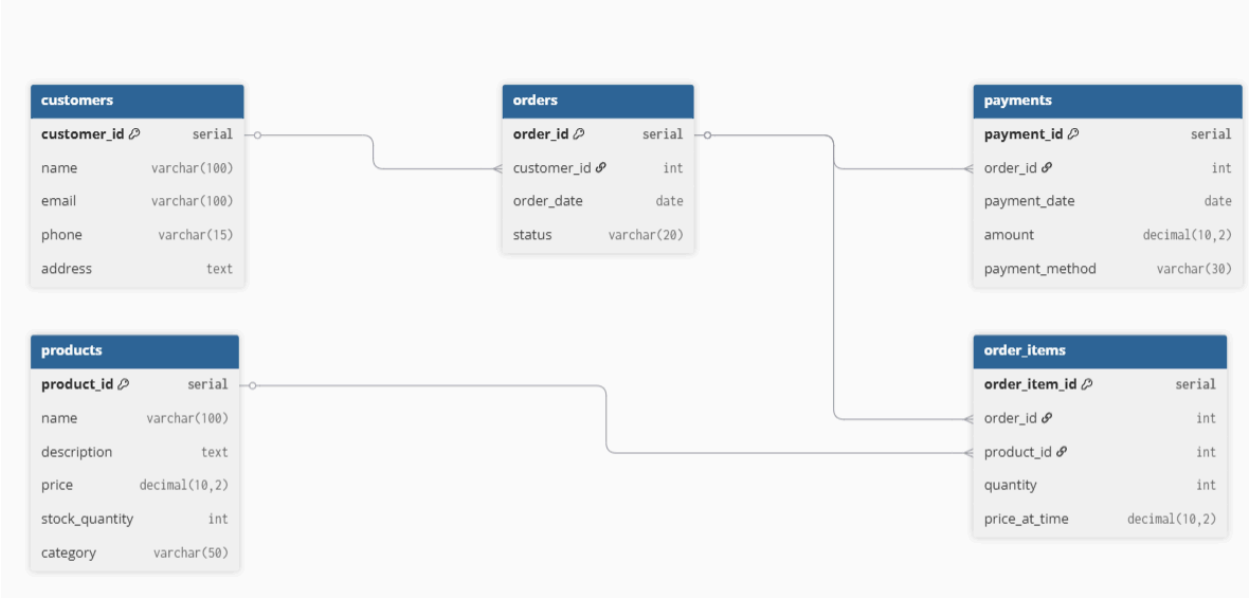
We use tools like **PostgreSQL** and **pgAdmin** to build the database and **dbdiagram.io** to draw the diagram of how everything is connected. The goal is to make sure the data is well-structured, without duplicates, and easy to use for reports and analysis.

Entities:

1) **Customer -** Stores customer information (name, email, phone, address)
2) **Product -** Details about items for sale, such as name, price, category
3) **Orders -** Each order is linked to a customer and includes a date and status
4) **Order Items -** Each order can have multiple products, with quantity and price at time
5) **Payments -** Captures transaction data for completed orders

Relationships:

1) One customer can place many orders (**1:N**)
2) One order can contain many products via order_items (**M:N**, resolved through a junction table)
3) Each order has one payment (**1:1**)



Normalization (3NF)

All tables are designed to be in **3NF**, ensuring minimal redundancy and improved integrity.

Conclusion

In this project, we successfully designed and implemented a normalized relational database for an **Online Retail Sales** platform. The goal was to model the core operations of an e-commerce system — including customer management, product listings, orders, and payments — using a structured and scalable SQL schema.