

Online Retail Sales Database Design - Internship Project Report

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Introduction

The objective of this internship project is to design a normalized relational database for an online retail platform, implement

Abstract

This project demonstrates how to design a robust database backend for an e-commerce application. Key features include

Tools Used

- PostgreSQL / MySQL (DDL compatible)
- Any SQL client (pgAdmin, DBeaver, DB Browser)
- Optional: Power BI or Python for downstream visualization (not included here)

Steps Involved in Building the Project

1. Requirements: Identify core entities (Customers, Products, Categories, Orders, OrderItems, Payments).
2. Schema design: Normalize schema to 3NF and define primary/foreign keys and constraints.
3. Implement DDL: Write CREATE TABLE statements and add indexes for common query paths.
4. Sample data: Insert sample customers, categories, products, orders, items, and payments to enable testing.
5. Analytical queries: Write SQL queries to compute top products, monthly revenues, AOV, repeat customers, sales by cat
6. Validation: Run queries to validate correctness and tune indexes if necessary.
7. Documentation: Prepare a concise 1–2 page report summarizing work and results.

Conclusion

The designed database supports typical e-commerce reporting and operational needs. With the provided DDL, sample dat

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