
End-to-End Guide for My SQL Project – Dishcover

This guide walks through everything I did to build a SQL project based on Dishcover, a fictional food delivery company. I've broken down each step from setting up the database to solving real-world business problems using SQL. This helped me practice real-time data handling and analytical thinking.

Step 1: Setting Up PostgreSQL and pgAdmin 4

1. **Installing PostgreSQL:**
   First, I downloaded and installed PostgreSQL from the official website. During setup, I made sure to set a password for the default postgres user (you'll need it later).
2. **Installing pgAdmin 4:**
   I also installed pgAdmin 4, which is a graphical tool that makes it easier to manage PostgreSQL databases without writing commands for everything.
3. **Launching pgAdmin 4:**
   After setup, I opened pgAdmin 4 and logged in using the password I created during the PostgreSQL installation.

Step 2: Creating the Database

1. **Setting Up My Database:**
   Inside pgAdmin 4, I right-clicked on "Databases" and created a new one called dishcover_db. I kept the owner as postgres.

Step 3: Creating Tables

1. **Building the Tables:**
   Under Schemas → Tables, I created tables like restaurants, customers, orders, riders, and deliveries based on my project schema.
   I made sure to define columns with the right data types, and added primary/foreign keys wherever needed.

Step 4: Importing Data

1. **Getting the Data Ready:**
   I had all my data in CSV files. I double-checked the format to match the column structure I used while creating tables.
2. **Importing in pgAdmin:**
   To load the data, I right-clicked each table, went to "Import/Export", chose "Import", selected the CSV file, mapped the columns correctly, and ran the import. That's how my tables got filled with data.

Step 5: Checking for Null Values

1. **Finding Missing Data:**
   I used SQL queries in the query tool to find any null values in the tables. This helped me understand if anything was incomplete.

2. **Handling Nulls:**
   Based on the situation, I either removed the rows, filled in the missing values, or flagged them for further review.

Step 6: Doing Exploratory Data Analysis (EDA)

1. **Getting to Know the Data:**
   I ran basic SQL queries to check data distribution, unique values, and general structure—like how many records exist in each table.

2. **Visualizing the Data:**
   I used pgAdmin's options and sometimes exported the data to Excel or Python to create bar charts, histograms, etc., just to make sense of trends visually.

Step 7: Basic Data Analysis

1. **Running Basic Queries:**
   I started with simple queries—like total number of orders, average order value, and which restaurants/customers were the most active.

2. **Summarizing Key Insights:**
   I tracked core metrics like total revenue, number of customers, and total orders. These helped frame the business performance of Dishcver.

Step 8: Solving the 20 Business Questions

1. **Understanding the Questions:**
   I referred to the 20 business questions designed to test practical SQL skills in a realistic setup.

2. **Breaking Down Each Problem:**
   For every question, I figured out which tables and columns were needed, and built the query step by step—testing each part to make sure the logic and results made sense.

3. **Saving My Work:**
   I kept all my SQL queries documented neatly so I could reuse or explain them later if needed.

4. **Presenting the Results:**
   Once I was done, I organized all the answers and outputs. I'm planning to turn it into a simple dashboard or report so it looks professional when I share it.
