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:
I downloaded and installed PostgreSQL from the official website. During setup, I set a password for the default postgres user (you'll need it later).

2. Installing pgAdmin 4:
I installed pgAdmin 4 — a **graphical interface** that simplifies managing PostgreSQL databases.

3. Launching pgAdmin 4:
After installation, I launched pgAdmin 4 and **logged in using the password** I created during setup.

Step 2: Creating the Database

1. Setting Up My Database:
Inside pgAdmin 4, I right-clicked on **"Databases" → "Create"** and made a new database called dishcover_db. The owner was kept as postgres.

Step 3: Creating Tables

1. Building the Tables:
Under **Schemas → Tables**, I created the core tables:
restaurants, customers, orders, riders, and deliveries.

I carefully defined:

- **Data types**
- **Primary and foreign keys**
- **Constraints** to maintain data integrity

Step 4: Importing Data

1. Getting the Data Ready:
I ensured that my **CSV files matched the structure** of my tables — column names, formats, and datatypes.

2. Importing in pgAdmin:
Using **Import/Export** in pgAdmin, I:

- Selected the CSV file

- Mapped the columns correctly
- Ran the import

This loaded all my data into the tables.

Step 5: Checking for Null Values

1. Finding Missing Data:
I wrote **SQL queries** to check for null values in important columns.

2. Handling Nulls:
Depending on the context, I:

- **Removed rows**
- **Filled in missing values**
- **Flagged records** for manual review

Step 6: Doing Exploratory Data Analysis (EDA)

1. Getting to Know the Data:
I ran **basic SELECT queries** to explore:

- Record counts
- Unique values
- Table relationships

2. Visualizing the Data:
I used:

- **pgAdmin options**
- **Excel or Python** (for bar charts, histograms, etc.)

This helped identify **trends and outliers** visually.

Step 7: Basic Data Analysis

1. Running Basic Queries:
I started with simple analysis like:

- Total orders
- Average order value
- Top restaurants/customers

2. Summarizing Key Insights:
I focused on key metrics like:

- **Total revenue**
- **Active users**
- **Order frequency**

These insights helped evaluate Dishcover's **business performance**.

Step 8: Solving the 20 Business Questions

1. Understanding the Questions:
I used a curated list of **20 business-focused SQL problems** to simulate real-world scenarios.

2. Breaking Down Each Problem:
For each question, I:

- Identified relevant tables
- Wrote the query step-by-step
- Tested and validated logic

3. Saving My Work:
I documented all my **SQL queries** in a well-organized format.

4. Presenting the Results:
I compiled all outputs to prepare a **dashboard or report**, making it look professional for sharing.
