# **Project Plan: Database and "vs. The Market" Feature**

This document outlines the agreed-upon plan for evolving the application from a live data tool into a multi-tenant data platform with market comparison capabilities.

### **1. The Core Concept: From Live Pull to Stored Snapshots**

The current application pulls data live from the Cloudbeds API. To enable market comparison, this model will shift to a more robust, database-centric architecture.

* **Store Data:** A daily process will fetch key metrics for every registered hotel and store them as a historical "snapshot" in our own database.
* **Aggregate Data:** When a user wants to see "the market," the application will query our database to calculate the average performance of all other hotels in the same city.

### **2. Database Choice**

The selected database technology is **Neon PostgreSQL**. This is an industry-standard, serverless, and scalable solution that integrates seamlessly with our Node.js backend.

### **3. The "Snapshot" Model**

* **Scheduled Jobs:** A "cron job" will run on our server at a regular interval.
* **Timezone-Aware Logic:** The job will trigger a script that fetches data for each hotel shortly after midnight in their local timezone, ensuring we always work with complete, finalized daily numbers.
* **Forecasting Capability:** The data structure will support storing a 365-day forecast, allowing for powerful "on-the-books" analysis over time.

### **4. Database Structure**

We will implement two primary tables in our Neon PostgreSQL database.

#### **Table 1: hotels**

This table stores static information about each hotel property using the application.

| **Column Name** | **Data Type** | **Example** |
| --- | --- | --- |
| hotel\_id | INTEGER | 302817 |
| property\_name | TEXT | Rockenue Partner Account |
| property\_type | TEXT | Hotel |
| currency\_code | TEXT | USD |
| currency\_symbol | TEXT | $ |
| primary\_language | TEXT | en |
| address\_1 | TEXT | 123 Market St |
| city | TEXT | Berlin |
| zip\_postal\_code | TEXT | 10115 |
| country | TEXT | Germany |
| latitude | DECIMAL | 52.5200 |
| longitude | DECIMAL | 13.4050 |
| cloudbeds\_refresh\_token | TEXT | (Encrypted Token) |

#### **Table 2: daily\_metrics\_snapshots**

This table stores the daily performance data for each hotel. A new set of rows will be added for each hotel, every day.

| **Column Name** | **Data Type** | **Example** |
| --- | --- | --- |
| snapshot\_id | INTEGER | 1 |
| snapshot\_taken\_date | DATE | 2025-07-04 |
| stay\_date | DATE | 2025-08-15 |
| hotel\_id | INTEGER | 302817 |
| adr | DECIMAL | 155.50 |
| occupancy\_direct | DECIMAL | 0.75 |
| revpar | DECIMAL | 116.63 |
| rooms\_sold | INTEGER | 30 |
| capacity\_count | INTEGER | 40 |
| total\_revenue | DECIMAL | 4665.00 |
| total\_room\_revenue | DECIMAL | 4500.00 |
| total\_other\_revenue | DECIMAL | 165.00 |
| room\_rate\_total | DECIMAL | 4450.00 |
| taxes\_total | DECIMAL | 350.00 |
| fees\_total | DECIMAL | 100.00 |
| misc\_income | DECIMAL | 15.00 |
| adults\_count | INTEGER | 45 |
| children\_count | INTEGER | 5 |
| room\_guest\_count | INTEGER | 50 |
| blocked\_rooms\_count | INTEGER | 2 |
| out\_of\_service\_rooms\_count | INTEGER | 0 |

### **5. Application Logic (Option C)**

We will proceed with the "All from DB" model for the best performance and data integrity.

* **Accurate Comparison:** The dashboard will always compare a completed day's data against the market's data for that same completed day (e.g., "yesterday vs. yesterday").
* **Fast & Reliable:** The user experience will be extremely fast, as it relies on simple database queries rather than waiting for multiple live API calls.

### **6. Development & Testing**

To build this feature without requiring multiple live hotel accounts, we will use **CSV files** to "seed" the database with mock historical and future data for other hotels in the same market. This will allow us to perfect the "vs. The Market" feature before onboarding real users.