



# Database Divas

Interview for Analyst I - SJ's Energy  
Department

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**Q1:** *Can you share why this role in database management excites you and how it aligns with your career goals?*

01

### **Organization**

Helping San Jose with their new energy department in breaking down and understanding energy usage and contracts would be influential in city decisions. I would love to be a key part in making a change

02

### **Problem Solving**

The heart of data analytics is problem solving, using your skills to help you think outside of the box. Real world applications are an instrumental part of pushing yourself and your skills.

03

### **Analytics career**

An insight into the types problems I will be able to solve on this scale will help me hone my skills to be able to solve any problem I face.

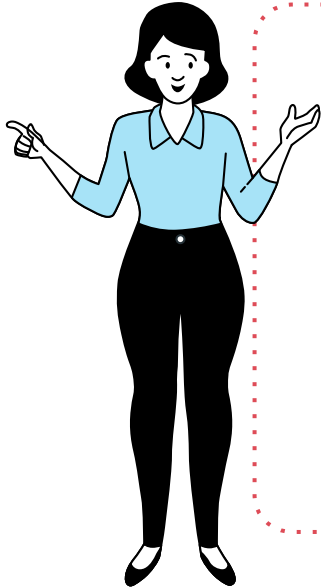
**Q2:** *What specifically about our company or this job role appeals to you?*



- IMPACTFUL WORK
- ALIGNS W/ SKILLS
- OPPORTUNITY FOR GROWTH



- INNOVATIVE FIELD
- COMMUNITY ENGAGEMENT



**Q3:** *Why are you the best fit for this position? How do your skills align with our needs?*

01

### **Collaborative Mindset**

My internships and classes emphasize teamwork and critical thinking, which are essential for working on multidisciplinary projects and delivering data-driven solutions.

02

### **IT & Analytics**

An MIS background emphasizes the integration of technology and business, allowing me to bridge the gap between raw data and actionable insights that support energy initiatives.

03

### **Technical Proficiency**

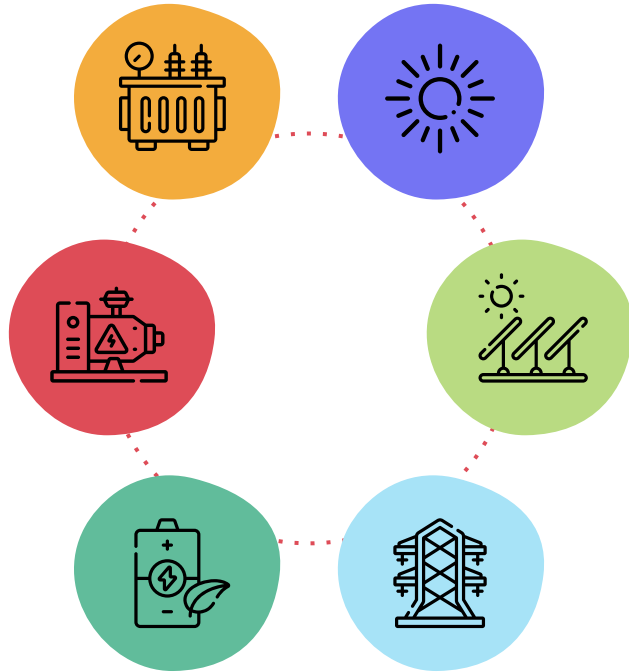
My coursework and hands-on experience with data analysis tools, databases, and programming languages like SQL and Python provide a solid foundation to analyze and interpret energy data effectively.

04

### **Sustainability Interest**

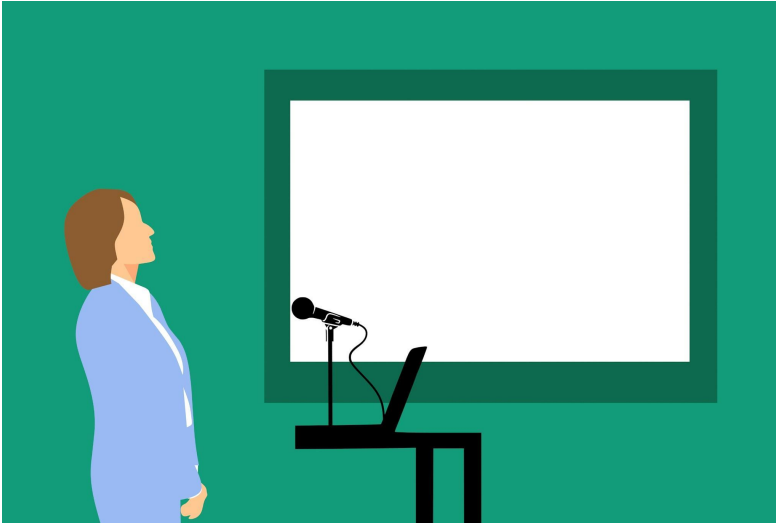
I have a keen interest in contributing to energy efficiency and sustainable practices which reflects my alignment with the department's mission and goals.

**Q4:** *Can you walk us through your database management class project? What was your role and its impact?*



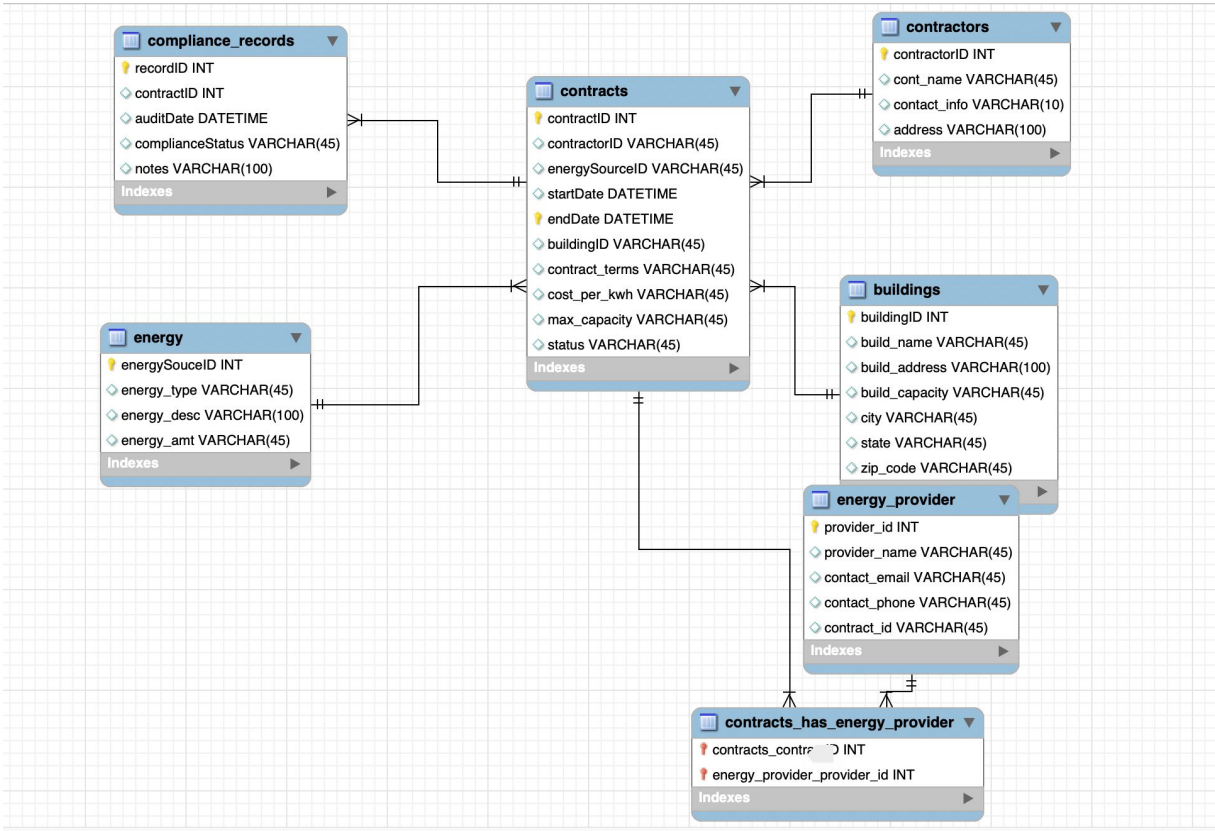
The Database Management class project served the purpose of simulating a database for a company we were interested in being hired at. We gained important knowledge and first hand experience about the process of applying to be a database management analyst. This project offered us an opportunity to gain experience and references for future job and internship opportunities.

## **Q5:** *How did your database function, and what features made it unique?*



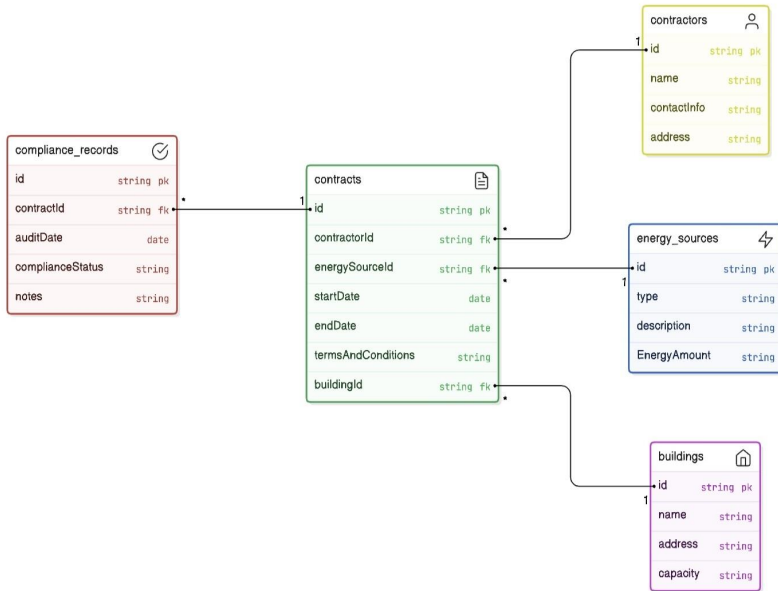
The designed database supported the city of San Jose's department of energy by tracking and managing energy contracts. The main function of this database was to ensure that all contractors were meeting their expected requirements such as energy delivery, payment schedules, and performance standards. Our database also managed to track contract renewals, audits, and charges to make sure there was compliance. The key data we collected was contractor details, terms of the contract, and records that demonstrated compliance. Our database was created to make sure it could monitor performance and ensure contractors meet their obligations, monitor contract performance, and maintain clear records for reports and audits.

# Snowflake Schema



## Q6: How did you use AI tools to enhance your project, and how did they complement your skills?

City of San Jose Energy Contract Management System



**AI Tools for Drafting:** Used tools like Diagram GPT to quickly generate an initial ERD framework based on system requirements.

**Time Efficiency:** Saved time by automating the creation of relationship and structure in the diagram.

**Enhanced quality:** I combined AI's speed with my knowledge to make sure the ERD was clear and correct.

**Personalization:** Refined field names, added missing attributes and adjust relationships to align with project needs.



**Q7:** *Can you provide examples of how your database can support business decisions?*



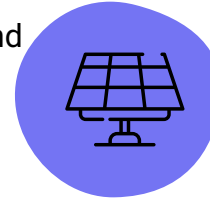
## **Optimizing Resource Allocation**

Analyze consumption trends to identify periods of high or low usage, enabling more efficient energy distribution



## **Forecasting and Planning**

Identify seasonal or regional variations in usage to better plan energy production and procurement.



## **Cost Management**

Identify high-cost areas and assess opportunities for cost-saving measures.

**Q8:** *What did you enjoy most about the project, and why?*



This project was highly interactive and offered us to gather hands on experience and gather a deeper perspective on the creation of database analyzing and collaborative problem solving and critical thinking.

## **Q9:** *If given the chance to revisit this project, what would you improve?*

If I could revisit this project I would improve my usage of AI to help me and understand it's capabilities and how it can boost my outputs.

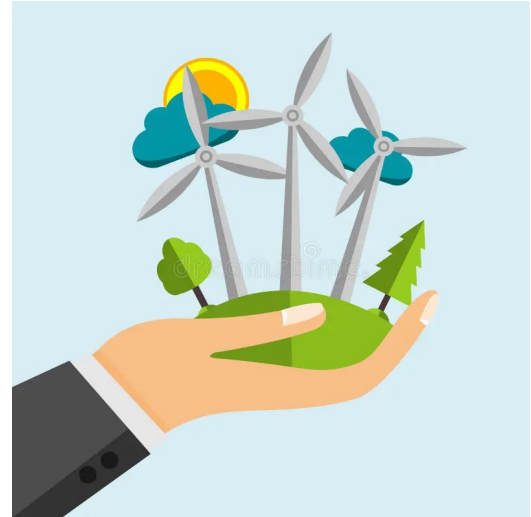
**01**

**02**

I would also do some research into existing projects to help create my data and narrow it down to the required elements.

**Q10:** *What was the most significant challenge you encountered, and how did you address it?*

We encountered the issues of running into specific issues regarding database structure that after careful review and research we were able to overcome. We also encountered issues in regarding the correct formatting of queries and we simply solved this by reviewing previous class slide shows and reviewing our old work.





# Real World Case

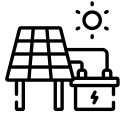


## San Jose Takes Control: Rethinking Energy with Data-Driven Decisions

- **Reason for change:** San Jose is considering forming its own municipal utility to reduce energy costs and increase reliability
- **Cost Analysis:** Data analysis showed high expenses under PG&E while also indicating the possibility for large savings with local control
  - offers residential rates nearly half the rate
- **Model Inspiration:** Cities like **Santa Clara** and **Palo Alto** have successfully implemented similar systems with lower rates.
- **Timeline:** The city aims to launch its own utility in few years, initially serving high demand areas.



# Technical Demonstration



## Innovative Features

**Automated Budget Forecasting**- It monitors and projects energy costs.

**Sustainability Metrics** - Monitors rating on provider sustainability.

**Alerts for Contract Deadlines**- Avoid service lapses.



## Practical Applications

**Efficient Contract management**- Keep all contracts in one place.

**Vendor performance Analysis**- Compares rates and terms across providers.

**Data- Driven decision making** - includes optimally selecting vendors.

**Thank you for your time!**

