Kagina Pvt Ltd Data Architect Interview Guide – Experienced 4+

Interview Process Breakdown

Round 1: Assessment

Objective: Solve a business case study using a structured and analytical approach.

Expectations:

1. **Exploratory Data Analysis (EDA)**:
    - Use a SQL-based tool to derive meaningful insights from data.
    - Focus on identifying trends, anomalies, and actionable findings.
2. **Business Analyst (BA) Approach**:
    - Present conclusions in a clear and concise manner.
    - Emphasize storytelling with data and align insights with business objectives.

Tips:

- Prepare by practicing EDA on diverse datasets. Use tools like SQL Workbench or Google BigQuery for hands-on experience.
- Improve data visualization skills using platforms like Tableau or Excel to present results effectively.

Round 2: Technical 1

Introduction:
This round started with a brief introduction, where I outlined my current role, responsibilities, and notable achievements.

Key Topics Discussed:

SQL:

- **Indexing**: Explained the purpose, benefits (faster query execution), and trade-offs (increased storage).
- **Delete vs. Truncate**: Highlighted differences in behaviour, rollback capability, and use cases.
- **WHERE vs. HAVING**: Discussed how WHERE filters rows before grouping and HAVING filters grouped data.
- **Window Functions**: Covered examples like ROW_NUMBER, RANK, and SUM OVER, with real-time use cases.
- **Joins**: Discussed all types (INNER, LEFT, RIGHT, FULL OUTER) and scenarios for their application.

- **CASE Statement**: Demonstrated its versatility in conditional query logic.
- **Stored Procedures**: Explained how they encapsulate reusable logic within databases.

ETL (Extract, Transform, Load):

- Covered real-world scenarios and use cases for ETL pipelines.
- Discussed different layers, such as staging, transformation, and presentation.
- Explained Informatica's role as a robust ETL tool for building and managing workflows.

Data Modeling:

- **Data Mart vs. Data Warehouse vs. Data Lake**: Explained differences and ideal use cases.
- **Schemas**: Used examples to clarify star vs. snowflake schema design, emphasizing performance and complexity trade-offs.
- **Dimension and Fact Tables**: Described their roles in data models and shared examples like sales (facts) and regions (dimensions).
- **Slowly Changing Dimensions (SCD)**: Discussed SCD types (Type 1, Type 2, Type 3) with strategies for maintaining historical data integrity.

Business Standards:

- Detailed my approach to client interactions and requirement gathering as a Business Analyst.
- Discussed tools for documentation (e.g., Confluence, Jira) and data modeling (e.g., ER diagrams using Lucidchart).

Tips:

- Refresh fundamental SQL concepts and focus on applying them to real-world problems.
- Understand ETL and data modeling principles in-depth; practice designing schemas based on case studies.

Round 3: Technical 2

Introduction:
Reintroduced myself, emphasizing key aspects of my current role and contributions to past projects.

Topics Covered:

Informatica:

- Delved deeper into its practical applications, discussing how it simplifies complex ETL tasks with minimal scripting.

ETL/Data Modeling/Data Warehousing Concepts:

- Answered scenario-based questions to demonstrate my problem-solving approach in ETL processes and schema designs.

SQL:

- Solved 3–4 problem statements, including multi-join queries and window function use cases.

Snowflake:

- Covered basics of Snowflake's cloud data platform, such as architecture, virtual warehouses, and scaling capabilities.

Excel/Google Sheets:

- Discussed how I leverage these tools for quick data analysis and visualization in smaller datasets.

Tips:

- Practice designing ETL workflows and focus on applying data modeling concepts to real-world projects.
- Gain familiarity with modern cloud platforms like Snowflake and AWS Glue.

Round 4: Final Call

Objective: Informal discussion to align expectations and provide clarity on the role.

Discussion Points:

- Gained insights into the company's business model, work culture, and core values.
- Discussed the team structure, ongoing projects, and future roadmaps.

Tips:

- Approach this round with curiosity; ask thoughtful questions about the company's vision, challenges, and opportunities for growth.
- Be honest and transparent about your expectations from the role.

Example Questions for Each Round

Round 1:

1. Perform EDA on a dataset and summarize your findings in a business context.
2. What key metrics would you prioritize when analyzing customer churn?

Round 2:

1. Design a schema for a retail store's sales data, explaining your choice of dimensions and facts.
2. Write an SQL query to find the top 3 performing products in each category.

Round 3:

1. Describe a situation where you had to redesign a data model to meet changing business needs.

Round 4:

1. What aspects of our business model excite you the most?

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