ZS Associates Data Engineer Interview Guide – Fresher

Round 1: Screening Round

This round was a telephonic interview lasting approximately 15 minutes. It focused on my college projects, including work with Databricks, Spark, and Hadoop, as well as a research project involving a web crawler. I provided a detailed explanation of my contributions and the technical challenges faced during these projects. Additionally, I was asked why I wanted to work for ZS Associates and how the role aligned with my career aspirations.

Round 2: Technical Interview 1 (Operating System, SQL, and DSA)

This round emphasized problem-solving and foundational concepts in data structures and algorithms. Key questions included:

- **Fibonacci Series Problem**: Solve using both brute force and optimized approaches.
- **Data Structures Questions**:

   Differences between Stack, Queue, and Linked List.

   Solving problems in Java or Python.

In addition to coding challenges, I was asked to demonstrate my understanding of key operating system concepts:

- Virtual Memory
- TCP Protocol Functionality
- IPv4 vs IPv6
- Semaphore in OS and its Use Case
- Deadlock: Definition and necessary conditions.
- Difference between Stack vs Queue
- Synchronization Mechanisms
- HTTP vs HTTPS Protocol
- RAM Working Principles

Round 3: Technical Interview 2 (SQL and Database Concepts)

The focus shifted to database and SQL queries. Questions covered:

- Joins: Different types and their use cases.
- Normalization: Concepts and its importance.
- CAP Theorem
- Views vs Tables
- Snowflake Schema vs Star Schema
- Super Key vs Composite Key
- Data Warehouse vs Database

Additional questions included advanced OS topics:

- Virtual Memory
- TCP vs UDP Protocol

Round 4: Case Study Round

Objective: Evaluate problem-solving and analytical skills.

Process: Candidates are presented with a case study and must clarify questions and objectives before proceeding. The duration is approximately 30-45 minutes to analyze and propose a solution.

Common Questions:

- Describe your approach to the case study.
- How did you structure your solution?
- Present your findings and recommendations.

Round 5: Case Study Solution Review

This technical round was a review of my case study solutions:

- I was asked to explain the SQL query logic.
- Data interpretation was assessed, including why a 'D' value was interpreted instead of 'Y'.
- I was asked to design a flowchart using **edraw.io** to demonstrate my thought process.
- Additional SQL optimization discussions focused on my use of window functions and exploring alternative approaches.

Round 6: Guesstimate Round

Objective: Test logical reasoning and estimation skills.

Process: I was given classic estimation problems. One notable example:

- **Light Bulb Problem**: Three switches outside a room control three bulbs inside. Determine which switch controls which bulb with minimal trials.

I explained my reasoning, clarified assumptions, and detailed the steps taken to arrive at the solution.

Final Technical/Managerial Round

Objective: Assess technical expertise and behavioral fit.

Process:

- **Behavioral Questions**:

    Describe a time when you completed a task under pressure.

    How did you manage a situation where you lacked knowledge for a task?

- **Technical Questions**:

    Programming languages and their application in past projects.

Glassdoor ZS Review –

https://www.glassdoor.co.in/Reviews/ZS-Associates-Reviews-E115506.htm

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