



# Data Engineering Interview Questions



Ankita Gulati

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# Job Details

- **Position:** Data Engineer III
- **Experience:** 3 years
- **Location:** Bangalore / Gurgaon
- **Work mode:** Office
- **Compensation:** ₹30+ LPA
- **Total Rounds:** 5
- **Top Required Skills:**
  1. SQL
  2. PySpark / Python
  3. Cloud Data Engineering
  4. ETL / Data Modeling
  5. Big Data & Streaming
  6. System Design

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# Round 1

## Initial Screening

1. Explain the steps involved in creating a database (Conceptual, Logical, Physical schema).
2. What is partitioning and indexing in databases, and when would you use them?
3. How do you approach SQL query optimization? Provide an example.
4. Explain Python data structures such as:
  - List
  - Tuple
  - Set
  - Dictionary
  - Bitmap
5. What are some best practices in data modeling?

# Round 2

# Technical Interview I

## DSA Questions

- Given a list of words, group together words that are anagrams of each other.
  - Input: ["mat", "tam", "cute", "beat", "eatb", "teab", "ateb"]
  - Output: [[["mat", "tam"], ["cute"], ["beat", "eatb", "teab", "ateb"]]]
- Implement 2D matrix multiplication.

## SQL Questions

- Write a query to split a string into individual rows.
  - Input: 'pen'
  - Output: 'p', 'e', 'n'.

# Round 3

# Technical Interview II

## PySpark & SQL

1. You are given an audit log file (audit.txt) with columns:
  - userid, timestamp, tablename, query\_text.
  - Write Python and PySpark code to identify the most queried table.
2. Write a query to find employees earning more than the average salary in their department.

## Spark Problem-Solving

3. You are running a Spark job that fails at 40% progress.
  - Why might it fail?
  - How would you debug and resolve it?
  - How can you increase memory without changing the number of executors?

## Data Modeling

4. Design a ticket booking application data model for reserving movie seats. Consider tables:

- User details
- Screening details
- Movie details
- Ticket details
- Seat details

# Round 4

## Hiring Manager Round

1. Why do you want to join Walmart?
2. What do you know about Walmart's data strategy or products?
3. Have you faced conflicts with teammates? How did you resolve them?
4. What was the most challenging task you recently worked on?
5. Did you face any career obstacles? How did you overcome them?
6. How do you handle stressful situations at work?
7. What would you do if you made a mistake in production?
8. Explain the current project design/architecture you are working on.

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# Round 5

## HR Round

1. Discussion on salary package and components.
2. Explanation of your role in the project and Walmart's expectations.
3. Answering your queries related to policies, work culture, or career growth.
4. Why should Walmart hire you over other candidates?

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Thank You

Best of luck with your  
upcoming interviews  
– you've got this!



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