Apple

Data Engineering Interview Questions

Ankita Gulati

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Job Details

- **Position:** Data Engineer
- **Experience:** 3+ years
- **Location:** Hyderabad
- **Work mode:** Hybrid
- **Compensation:** ₹18–25LPA
- **Total Rounds:** 4
- **Top Required Skills:**

1. Advanced SQL (complex joins, aggregations, and window functions)
2. Python programming (ETL scripting, data manipulation, handling edge cases)
3. Data Modeling and Database Design
4. Cloud Platforms (AWS Redshift, Spark, file formats like Parquet)

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Round 1
HR Interview

1. Can you please introduce yourself and walk me through your professional journey, highlighting projects where you contributed significantly to data engineering solutions?
2. What are some of the unique technical and personal skills you believe make you a strong fit for a Data Engineer role at Apple?
3. Could you share details about one project from your experience that best demonstrates your ability to handle large-scale data engineering challenges?

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Round 2
Manager Interview

1. Tell me about a situation when you were unable to meet a critical deadline. How did you approach the issue, what steps did you take to manage the situation, and what did you learn from that experience?
2. Please describe a long-term data engineering project you worked on. What strategies and tools did you use to ensure that the project milestones and deadlines were consistently met?
3. Can you explain one or two challenges you encountered while building or managing a data pipeline? How did you resolve these challenges and what impact did the resolution have on the final project outcome?

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Round 3
Technical Phone Interview

1. Why are you specifically interested in working as a Data Engineer, and why have you chosen Apple as your preferred company?
2. Can you explain your prior experience working with SQL in detail? Please share examples of the types of queries you wrote, any performance optimizations you applied, and the scale of data you handled.
3. Write a SQL query that involves multiple joins and aggregations to derive business insights, such as calculating sales growth across different regions or identifying the top-performing products in the past month. Explain the query step by step.
4. What is the difference between storing data in CSV format and Parquet format? Why do most companies prefer Parquet files for analytical workloads in modern data platforms?
5. Describe a time when you had to design or debug an ETL pipeline. How did you identify the root cause of issues, what debugging strategies did you use, and how did you ensure that the pipeline was both efficient and reliable after your fixes?

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Round 4
Onsite Interview

1. Please write SQL queries to solve advanced business problems such as finding the top-N products sold across different geographies, calculating year-over-year percentage growth in sales, or identifying customers with the highest engagement based on transactional history. Walk through the reasoning behind your query design.
2. Given a dataset of customer transactions, how would you design the underlying schema and data model to ensure performance, scalability, and ease of querying? Please describe the tables, relationships, and indexing strategies you would use.
3. Can you explain the concept of Monkey Patching in Python in detail? Please provide an example of how you would apply it in a data engineering context, and discuss both the benefits and potential risks of using it in production code.
4. Demonstrate your coding ability by solving a string manipulation problem, such as writing a Python program to reverse a string, detect duplicate characters, or transform the string into a specific format. Be sure to explain the steps and edge cases you considered.
5. What is the role of AWS Redshift in a modern data architecture? How would you compare AWS Redshift with Apache Spark? In which situations would you prefer Redshift, and when would Spark be more effective? Provide examples to support your answer.

Thank You

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

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