Disnry plus Hotstar Data Engineer Interview Guide – Experienced 3+

Hotstar is a leading streaming platform known for its large-scale data processing and real-time analytics needs. As a Data Engineer (SDE 2) at Hotstar, you will face challenging problems involving big data technologies, system design, and optimization strategies. Here is a detailed breakdown of interview experiences and sample questions to guide your preparation.

Common Interview Rounds

1. **Coding Round**: Focus on data structures, algorithms, and problem-solving.

2. **Low-Level Design (LLD)**: Designing reusable components and modular systems.

3. **High-Level Design (HLD)**: Architecting scalable, distributed data systems.

4. **Coding/Problem-Solving**: Additional complex coding problems.

5. **Hiring Manager (HM) Round**: Behavioral and scenario-based discussions.

Detailed Interview Preparation

1. Coding Round

Key Focus Areas: Array manipulation, dynamic programming, and tree traversal.

Sample Questions:

1. Solve Longest Consecutive Sequence.

2. Given an n-ary tree, write code to flatten it and store the output in a list.

3. Implement a function to check if a given string has balanced parentheses using a stack.

4. Design an algorithm to merge k sorted lists of video streaming data.

5. Write a function to remove invalid parentheses from a string.

2. Low-Level Design (LLD)

Key Focus Areas: Object-oriented design, interface design, and modular architecture.

Sample Scenario:

1. Develop a **generic user profile system** for Hotstar that:

   - Accepts inputs from various teams, such as a propensity score from personalization or a marketing channel.

   - Consolidates inputs into a unified user profile.

   - Supports daily updates with aggregation methods like min, max, last, and first.

2. Explain how you would implement a caching mechanism for frequently accessed video metadata.

3. High-Level Design (HLD)

Key Focus Areas: Scalability, fault tolerance, and distributed systems.

Sample Scenario:

1. Design a **threaded commenting system** similar to YouTube for Hotstar.

2. Propose an architecture to manage real-time analytics for user interactions during live sports events.

3. How would you design a system to support personalized recommendations at scale?

4. Describe a strategy for implementing a real-time content delivery monitoring system.

5. Architect a solution to handle notifications for millions of users with varying preferences.

4. Coding/Problem-Solving Round

Key Focus Areas: Advanced coding challenges and optimization.

Sample Questions:

1. Solve Minimum Remove to Make Valid Parentheses.

2. Write a function to detect anomalies in streaming data using a sliding window.

3. Implement an algorithm to find the longest common prefix among an array of strings.

4. Optimize a function to calculate moving averages of user engagement.

5. Write a solution to efficiently search a rotated sorted array.

5. Hiring Manager (HM) Round

Key Focus Areas: Behavioral insights, decision-making, and team dynamics.

Sample Questions:

1. Share a time when you explained a technical concept to a non-technical stakeholder.

2. Describe a challenging data-related issue you faced in production and how you resolved it.

3. Discuss a project where you significantly improved the performance of a data pipeline.

4. How do you prioritize tasks when handling multiple projects with tight deadlines?

5. Explain how you stay updated with evolving data engineering technologies.

Additional Practice Questions

1. How would you design a logging framework to track errors across multiple services?

2. Compare Kafka and RabbitMQ for real-time message processing in a streaming platform.

3. Explain the benefits of using columnar storage formats like Parquet or ORC.

4. What techniques would you use to ensure data consistency in a distributed database?

5. Describe how partitioning helps improve query performance in a large dataset.

6. How would you build a monitoring dashboard for ETL job failures?

7. Implement a rate-limiter to control API requests per user.

8. Discuss strategies for handling schema evolution in data warehouses.

Preparation Areas to Focus On

1. **Coding**: Leetcode medium to hard-level problems.

2. **Low-Level Design**: Reusable design patterns and clean coding principles.

3. **High-Level Design**: Scalable architectures and trade-offs.

4. **Behavioral Skills**: Communication, collaboration, and problem ownership.

By mastering these areas and understanding common patterns, you'll be ready to impress during your Hotstar Data Engineer interview. Best of luck!

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