

Assessment Test: Backend Engineer

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Introduction

Welcome to the Backend Engineer Assessment! This test will evaluate your technical skills and problem-solving abilities relevant to the Backend Engineer position at HipVan. Please read each question carefully and provide your answers accordingly.

Instructions

Instructions: For multiple-choice questions, select one answer from the options provided. For open-ended questions, please provide a clear and concise response. You have 60 minutes to complete this assessment.

Technical Skills

Q1. What is your preferred approach for designing scalable data pipelines?

- a) Microservices architecture
- b) Modular monolith approach
- c) Centralized data warehouse
- d) Data lake approach

Q2. How would you optimize endpoint performance in a RESTful API?

Q3. What is your experience with cloud-based data storage solutions?

- a) No experience
- b) Basic knowledge
- c) Intermediate expertise
- d) Advanced proficiency

Problem Solving

Q1. Design a scalable architecture for integrating data from various sources (e.g., databases, APIs) and processing it using Python. Consider scalability, performance, and reliability.

Q2. What would you do to ensure data quality in a large-scale data integration project?

- a) Implement data validation rules
- b) Use data profiling techniques
- c) Leverage data quality tools
- d) Monitor data for anomalies

Scenario-based Questions

Q1. You are tasked with setting up an integration between HipVan's analytics platform and a third-party marketing analytics tool. Describe your approach to establishing this integration, including any necessary data transformations or processing.

Q2. What would you do if you noticed a significant slowdown in API performance due to increased traffic?

- a) Add caching mechanisms
- b) Optimize database queries
- c) Use load balancing techniques
- d) Implement rate limiting