Technical Test

System Analyst

Instruction

Place yourself as System Analyst, then answer case below with following term:

- Send all of your work of technical test in PDF files with your name and position
- Send your work through our email hrd@geekgarden.id with Subject: Name_ System Analyst Test
- **Deadline of this technical test is 2 x 24 hours (counting after this document sent)**
- Please confirm through HR GeekGarden Official WhatsApp after your work is finished and sent by email

Case

ERP Implementation in a Manufacturing Company

Background:

PT Industri Maju, a manufacturing company producing automotive components, is facing issues with its scattered and unintegrated management systems. This has led to inefficiencies in operations and difficulties in decision-making. To address these problems, the management decided to implement an ERP (Enterprise Resource Planning) system that will integrate all core business processes, including inventory management, production, finance, and HR.

Context:

PT Industri Maju chose an ERP system that uses a modular architecture, with modules such as Inventory Management, Production Management, Financial Management, and HR Management. The system uses a relational database and implements RESTful APIs for external application integration.

As a Senior Systems Analyst, you are tasked with designing and implementing this ERP solution.

Questions:

- ERP Architecture Design
    1. Components Involved:
        a. Describe the system components that will be involved in the ERP implementation (e.g., ERP modules, database, middleware, API gateway, etc.).
        b. Create an architectural diagram showing how these components will interact with each other.

2. Data Flow:
    a. Explain how data will flow between the ERP modules.
    b. Include the data flow for scenarios such as raw material ordering, production, and finished product sales.

- Algorithm Used in the System
    1. Production Scheduling Algorithm:
        a. Propose an algorithm for optimal production scheduling.
        b. Explain how this algorithm will account for production capacity, raw material availability, and delivery schedules.
    2. Inventory Management Algorithm:
        a. Propose an algorithm for efficient inventory management.
        b. Explain how this algorithm will manage stock levels, reorder points, and safety stock.
- Risk Management and Disaster Recovery
    1. Risk Identification:
        a. Identify the key risks that may arise during the ERP implementation process, such as integration failure risk, data error risk, and user inexperience risk.
    2. Mitigation Strategies:
        a. Propose mitigation strategies for each identified risk.
        b. Include disaster recovery procedures to ensure service continuity in case of a system failure.
    3. Testing Plan:
        a. Develop a testing plan to ensure that the ERP implementation runs smoothly.
        b. Describe the testing scenarios that will be used to test the functions of raw material ordering, production, and sales.
- Documentation and Training
    1. Technical Documentation:
        a. Create a list of the technical documentation required for this project.
        b. Include implementation guides and API documentation if necessary.