

INTISARI

IMPLEMENTASI SISTEM *MONITORING* SERVER MENGGUNAKAN PROMETHEUS DAN GRAFANA DENGAN NOTIFIKASI EMAIL (STUDI KASUS PT HINO MOTORS MANUFACTURING INDONESIA)

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Era teknologi yang terus berkembang membuat perusahaan semakin bergantung pada infrastruktur IT yang menjadikan *monitoring* server sebagai aspek penting untuk menjaga stabilitas operasional. Proses memantau 74 server secara manual tidak efektif sehingga menyulitkan administrator mendeteksi anomali secara *real-time*. PT HMMI telah menggunakan Zabbix untuk monitoring seluruh perangkat jaringan namun, performa server menurun ketika ditambahkan *dashboard* monitoring server. Pada penelitian ini akan dilakukan implementasi sistem *monitoring* server menggunakan Prometheus dan Grafana dengan notifikasi email. Prometheus mengumpulkan data metrik seperti CPU, memori, penyimpanan, dan *throughput* secara terpusat, sementara Grafana menyediakan visualisasi data yang interaktif dan mudah dipahami. Sistem ini menggantikan metode manual yang kurang efisien dengan tujuan guna mempermudah administrator dalam memantau *resource* server secara *real-time*. Hasil pengujian menunjukkan bahwa sistem *monitoring* Grafana berhasil menampilkan data secara *real-time* dan mengirimkan notifikasi email dengan tingkat keberhasilan 100%. Selain itu, akurasi data pengujian menunjukkan penggunaan CPU mencapai 95,20%, memori 99,71%, *disk* 99,71%, dan *throughput* 91,42%. Pengujian performa server mencatat penggunaan CPU tertinggi sebesar 2,11%, memori maksimum 22,48%, ruang *disk* terbesar 20,85%, dan *throughput* tertinggi mencapai 203,56 Kbps saat memantau enam server selama enam jam. Sistem ini terbukti efektif dalam mendeteksi anomali dan membantu menjaga stabilitas layanan perusahaan.

Kata Kunci : *Monitoring* server, Prometheus, Grafana.

ABSTRACT

IMPMENTATION OF A SERVER MONITORING SYSTEM USING PROMETHEUS AND GRAFANA WITH EMAIL NOTIFICATION (CASE STUDY PT HINO MOTORS MANUFACTURING INDONESIA)

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The ever-evolving technological era makes companies increasingly dependent on IT infrastructure, which makes server monitoring an important aspect of maintaining operational stability. The process of manually monitoring 74 servers is ineffective, making it difficult for administrators to detect anomalies in real-time. PT HMMI has used Zabbix to monitor all network devices, however, server performance decreases when a server monitoring dashboard is added. This research will implement a server monitoring system using Prometheus and Grafana with email notifications. Prometheus collects metrics data such as CPU, memory, storage, and throughput centrally, while Grafana provides interactive and easy-to-understand data visualization. This system replaces inefficient manual methods with the purpose of making it easier for administrators to monitor server resources in real-time. The test results show that the Grafana monitoring system successfully displays real-time data and sends email notifications with a 100% success rate. In addition, the accuracy of the test data shows CPU usage reaches 95.20%, memory 99.71%, disk 99.71%, and throughput 91.42%. Server performance testing recorded the highest CPU usage of 2.11%, the maximum memory of 22.48%, the largest disk space of 20.85%, and the highest throughput reaching 203.56 Kbps when monitoring six servers for six hours. The system proved effective in detecting anomalies and helped maintain the stability of the company's services.

Keyword : Monitoring servers, Prometheus, and Grafana.