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Automated Monitoring and Analysis of Cron Jobs on Virtual Machines with Grafana Visualization

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Abstract: *This journal gives an extensive examination of a project that used Grafana and Google Cloud Platform to enhance the visualization of cron jobs across many virtual machines. The task entailed creating a script to gather information about cron jobs from several virtual machines and store it as a JSON file, which was then visualized in Grafana using the Infinity plugin. The method employed in this project entailed extracting data from cron jobs into various fields, such as cron expression, path, VM name, IP address, and project name, and establishing a Bitbucket public key in each virtual machine to enable SSH access. The project also discovered and analyzed the system's shortcomings, such as the absence of a thorough view of cron jobs and the laborious process of manually gathering data from several virtual machines. The proposed solution provided a streamlined procedure for gathering and visualizing data from cron jobs to solve these limitations. Future improvements could involve incorporating other data sources and broadening the research's scope to include other cloud platforms. The findings of this project have substantial practical applications for enhancing the effectiveness of cron task management in large-scale systems.*

Keywords: Google Cloud Platform, Virtual Machines, Cron Jobs, Bitbucket, SSH Access, JSON, Grafana, Infinity Plugin, Data Visualization, System Analysis, System Requirements, Advantages, and Disadvantages Future Enhancements: Cloud Computing, Automation

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