Serverless Computer Monitoring Dashboard with Python on Google Cloud Run

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ABSTRACT

This independent study develops a serverless web application dashboard for monitoring computers within a network. The system is built with Python using the FastAPI framework, with a frontend developed using HTML, CSS, and JavaScript, and PostgreSQL used for data storage. The application is deployed on a cloud platform and developed using Visual Studio Code.

The system collects data from client machines through an agent program and displays the information on a web-based dashboard. It allows administrators to monitor the status of both their own machines and client machines, helping them efficiently analyze, manage, and oversee network operations.

Technology



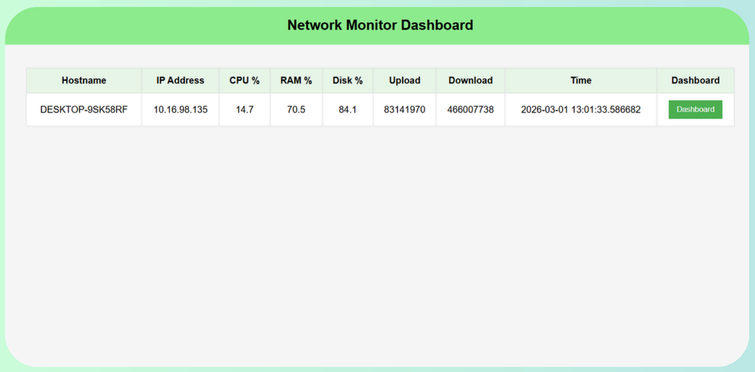
Introduction

Monitoring the status and resource usage of computer systems such as CPU, RAM, Disk, and Network is essential for effective network management, as it helps administrators analyze performance and quickly detect potential issues. However, monitoring multiple machines simultaneously can be difficult.

The Network Monitor Dashboard was developed to collect and display system performance data from multiple computers through a web-based dashboard. The system uses Python with FastAPI, PostgreSQL for data storage, and HTML, CSS, JavaScript, and Chart.js for data visualization. The system allows administrators to monitor and analyze computer performance conveniently through a real-time web interface.

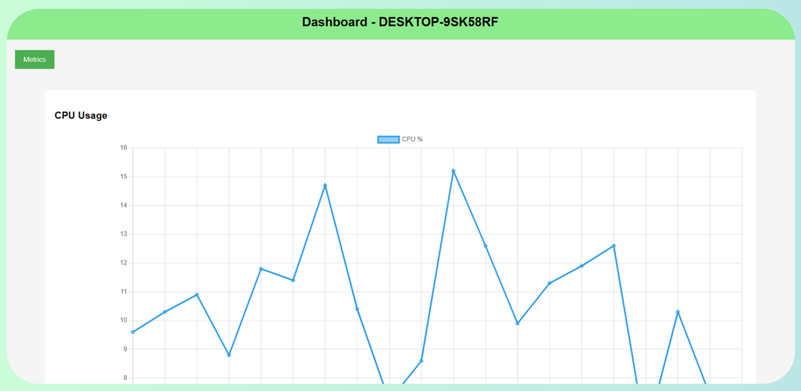
Result & Conclusion

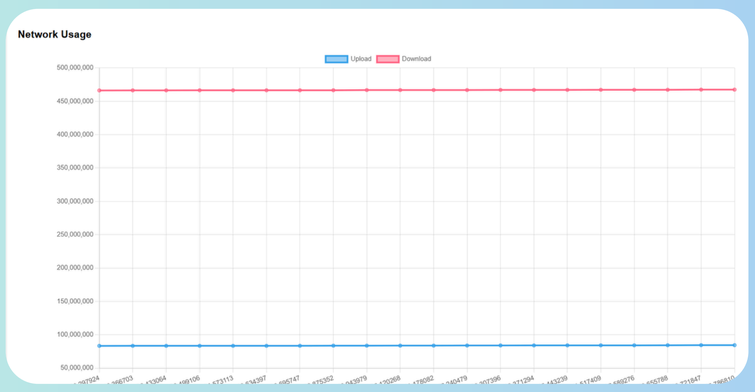
1 Displays metrics from all user machines.



dashboard

2 Displays CPU, RAM, disk, and network usage of the machine.





Design



Reference

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204499 Independent Study Academy Year 2024

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