windows-monitoring-system

Monitoring on-premises servers is essential to ensure their performance, detect anomalies, and enhance security. This project leverages Python's psutil module to achieve detailed monitoring with a client-database architecture. Metrics are collected from on-premises servers, stored in a PostgreSQL database, and visualized on a Grafana dashboard.

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Features

- Real-time monitoring of server performance metrics.
- Anomaly detection and security insights.
- Seamless integration with Grafana for interactive data visualization.
- Modular design for customization to different operating systems.

Architecture Overview

The system uses a client-database architecture:

- Clients: On-premises servers that send performance metrics to the PostgreSQL database.
- Database: PostgreSQL is provisioned on the cloud to store metrics.
- Visualization: Metrics are visualized on a Grafana dashboard.

Setup and Usage

Follow the steps below to set up and use the system:

1. Install Python and Dependencies:

- i) Install Python on all on-premises Windows machines.

- ii) Install the psutil package: pip install psutil.

2. Provision PostgreSQL Database:

- i) Provision a PostgreSQL database on the cloud and note the connection string.

3. Database Setup:

- i) Download and run setup.py on any machine to create the required tables in the PostgreSQL database.

4. Configure Environment:

- i) Save the PostgreSQL connection URL as an environment variable on on-premises servers.

5. Deploy Client Script:

- i) Download the client.py script from the repository.
- ii) Run client.py on all on-premises servers to collect and send metrics to the database.

6. Visualize with Grafana:

- i) Connect your Grafana instance to the PostgreSQL database.
- ii) Create dashboards to visualize server metrics.

7. Data Retention Policy:

- i) By default, the client script deletes all records from PostgreSQL every day at midnight (00:00). You can modify this behavior in client.py.

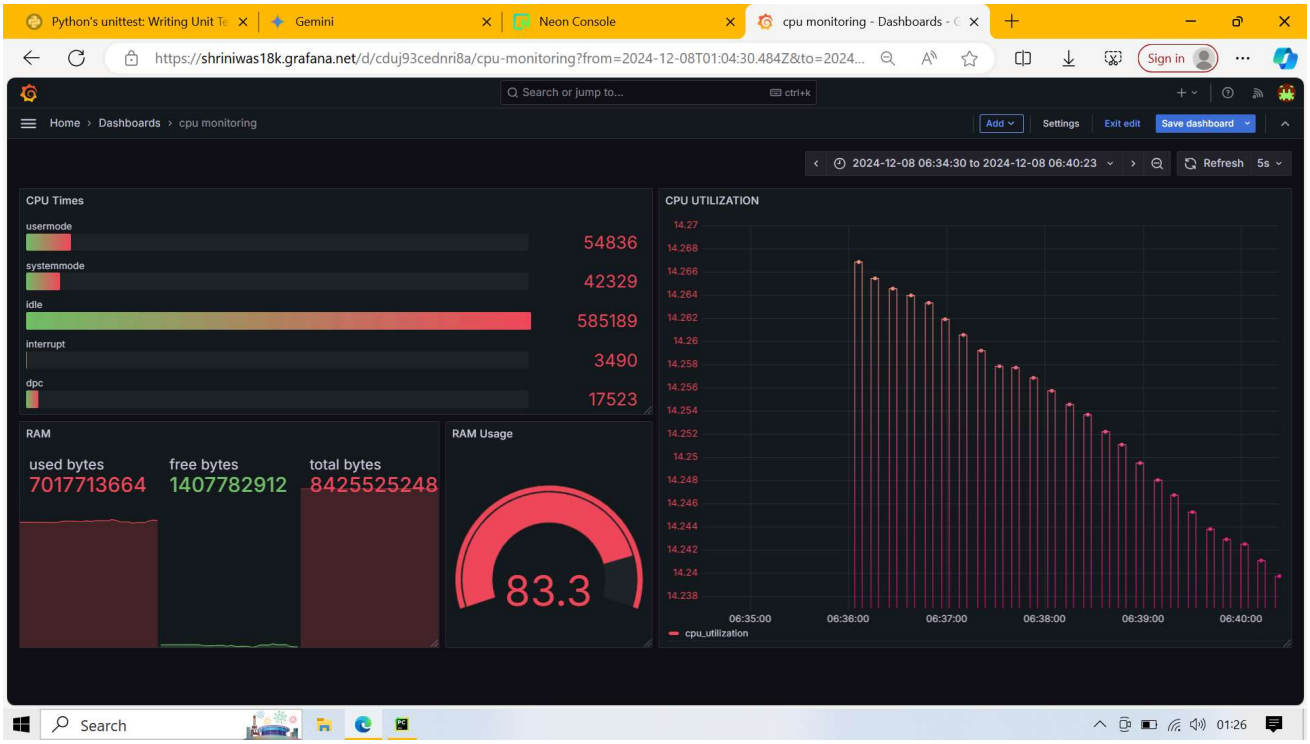
Customization

Refactor the code as needed to support specific operating systems for your on-premises servers.

Testing

The codebase has been tested using unittest and doctest.

Screenshots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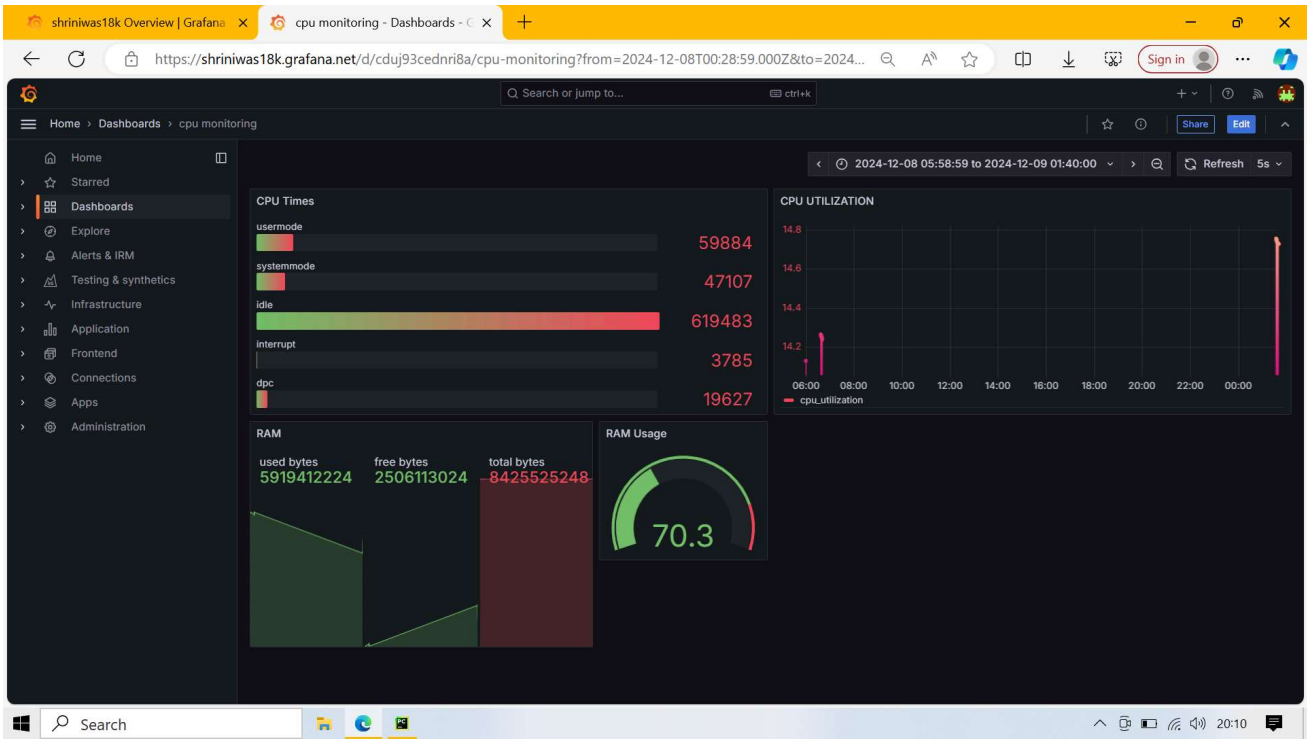
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Sign in
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Home › Dashboards › cpu monitoring
Share
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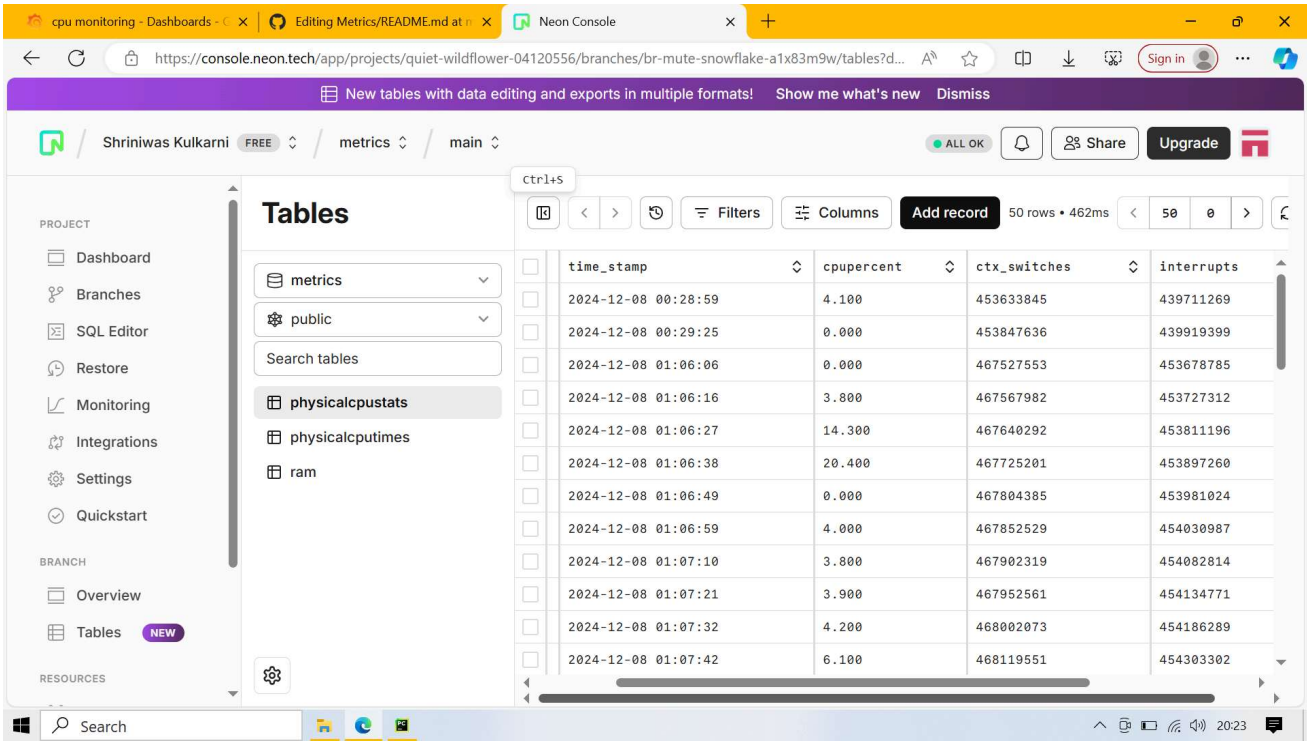
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Editing Metrics/README.md at
Neon Console
https://console.neon.tech/app/projects/quiet-wildflower-04120556/branches/br-mute-snowflake-a1x83m9w/tables?d...
Sign in
New tables with data editing and exports in multiple formats!
Show me what's new
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Shriniwas Kulkarni
FREE
metrics
main
ALL OK
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Upgrade
PROJECT
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Branches
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Monitoring
Integrations
Settings
Quickstart
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