FlexyPe

Internship Assignment

Deadline: Submit your completed assignment within 72 hours of receiving it.

Task: Design and Implement an Alerting System for Monitoring Failed POST Requests

You are tasked to build a backend system that:

- Monitors a specific POST endpoint (e.g., /api/submit) for failed requests caused by invalid headers or an incorrect access token.
- Tracks the number of invalid requests from each IP address within a configurable time window (e.g., 10 minutes).
- Triggers alerts through notification channels like (e.g., email) when a threshold of failed attempts (e.g., 5 attempts) from the same IP is exceeded, using Google's SMTP server to send the emails.
- Logs and stores metrics for failed requests, such as the source IP, timestamp, and reason for failure, for further analysis.
- Expose an endpoint to fetch metrics.
- (Optional) Design the system to be scalable, allowing it to handle a high volume of traffic and efficiently process (approx. 500 requests per seconds).

Judging Criteria

- Functionality:
    - The system correctly identifies and handles invalid requests.
    - Alerts are triggered after the threshold is breached.
    - Metrics are logged accurately.
- Code Quality:
    - Clean, well-documented code with proper structure and readability.
    - Use of meaningful variable and function names.
    - Adherence to best practices for backend development.

Tech Stack

- **Backend**: Node.js (or any preferred backend framework).

- **Database**: Use any database of your choice (MongoDB preferred).
- **Email Alerts:** Use Google's SMTP server (of your personal email) to send email notifications.

Submission Format

- **Video:** 5–10 minute walkthrough (Google Drive link).
- **Code:** GitHub repository with a clear structure and README.md.

Note: Revert on the same mail with the Google Drive video link and GitHub repository link.

Good luck! 🎯