Goals for Golang Developers

Our CEO is a 20 year code veteran with a focus on innovation and high-scalability in the content moderation space. He is moving back into code and is looking for a team to support him in building out the apps. The majority of tasks will be like this test task to build out and test a portion of the site. Emphasis will be on scalability. We process 30 billion chat messages a month so are our core API must hit 10,000 QPS per service with the ability to scale horizontally to 1 million QPS

Code Test

1. Create a HTTP server using the https://github.com/valyala/fasthttp library
2. Create another golang service to send it a simple JSON request of
    a. {"text": "hello world", "content_id": x, "client_id":y, "timestamp": now}
    b. where x is a counter from 1 to 1 billion
    c. where y is a random number between 1 and 10
    d. where now is right now with millisecond precision
3. Stream the data to AWS S3 in http://ndjson.org/ format with gzip compression
    a. it is important the data is streamed and not stored to disk
    b. it is okay if the file ending is corrupted but better it is not
    c. the filename should be "/chat/{{date}}/content_logs_{{date}}_{{client_id}}
        i. where date is in the format YYYY-MM-DD as in 2020-03-30
        ii. where client_id is the value from the json message and secure against injection attacks.
4. If the server crashes, hits an exception or is terminated by the server (for example when a docker pod is scaled down) it will attempt to flush the current stream.

Bonus Marks

1. Achieve 80% code coverage
2. Also send it to Azure Blob Storage

Submission of task

- Provide code as a git(hub/lab) repo
    - Use single purpose commits and conventional commit format
- Include in the README.md
    - a report on total QPS and memory use
    - installation instructions

- how long the task took in hours