Coding Assignment

Title: Stock price monitoring

**Description:**

It’s a service that consists of

1. A client service that’s fetching stock prices using https://www.alphavantage.co/documentation/#intraday and submit the data to the server e.g. you can just pick 10 different stock symbols to fetch and persist.
2. A server that can persist the stock price data to a database. It also allows users to set some price notifications through APIs. Email is the way of notification and users only want to get notified once per hour for each symbol.
3. A database - your choice and the database schema is designed by you

**Languages:**

Backend: Python, Go or Java

(Optional) Frontend: React, VueJS or any other modern web framework (e.g. Svelte)

**Scope:**

This project is an open-ended project, which means there’s no single right answer and there are lots of extra features you can implement. It’s all based on your motivation to make this work, and improve it further.

**Optional items:**

If you’d like to show off your programming chops, here’s a list of extra things you may want to consider:

General

1. Client -> Server, other than the HTTP APIs, gRPC/Kafka?
2. Docker, Kubernetes, Helm, or docker-compose for the deployment?
3. Database choices: Relational vs NoSQL vs Graph?
4. Unit test or Integration tests available?
5. Do you have a frontend UI for this? E.g. showing the prices in a chart? For configuring price notifications?
6. Documentation on how to deploy this from your source code? Readme.md?
7. Can your application handle downtime of the services?

Security

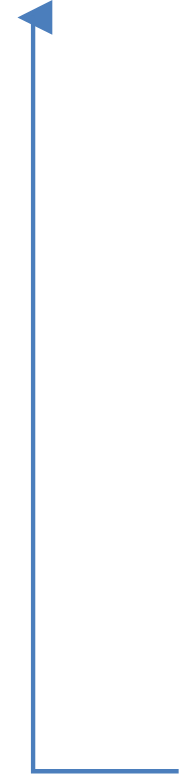
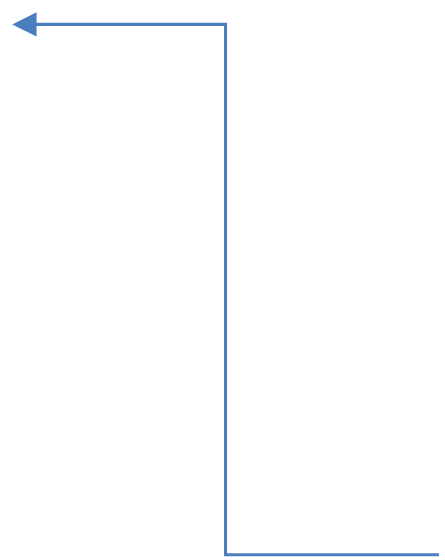
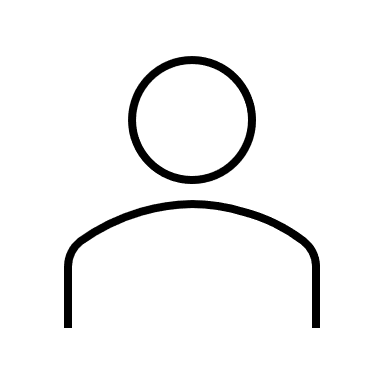
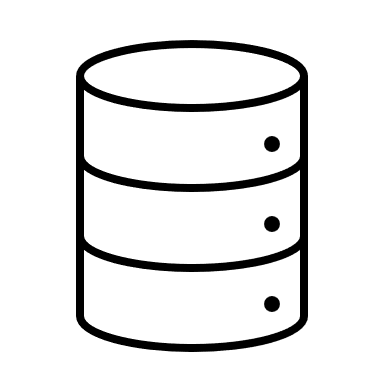
1. HTTPs for Users -> Server?
2. Authentication SSO using Gmail?
3. Client -> Server, how do you secure this communication, mTLS?

**Suggested time spent:** ~12 hours

**When to turn in assignment:** You have upto a week (7 calendar days) to turn in the assignment.

**How to submit Assignment**

Deliverable: the source code should be in a Git repository that we can access (Gitlab or GitHub). Once code is ready, share with [mkwong@paloaltonetworks.com](mailto:mkwong@paloaltonetworks.com) (company email is working for my github private account, no problem)



https://www.alphavantage.co 