

# Engineering Interviews - London Stock API exercise

## London Stock API

We are the London Stock Exchange and we are creating an API to receive notification of trades from authorised brokers and expose the updated price to them.

We need to receive every exchange of shares happening in real-time, and we need to know:

- What stock has been exchanged (using the ticker symbol)
- At what price (in pound)
- Number of shares (can be a decimal number)
- ID of broker managing the trade

A data store is used to store all transactions happening. Consider a minimal data structure and suggest the technology you prefer.

We need to expose the current value of a stock, values for all the stocks on the market and values for a range of them (as a list of ticker symbols).

Assume you can use SDKs and middleware for common functionalities.

Your task is to define a simple version of the API, including a definition of data model. Describe shortly the system design for an MVP.

## Enhancements

Is this system scalable? How can it cope with high traffic? Can you identify bottlenecks and suggest an improved design and architecture? Feel free to suggest a complete different approach, but be sure you can obtain the same goal.

## Submission

If you can share a GitHub repos, that's our preferred method. But if you prefer to send over a zip file of the solution or write in a text document, it's fine, but be sure it's clear and understandable.

## Evaluation

This assignment should not take more than 2 hours. We are looking for well structure code and problem solving focus. The solution does not have to be production ready, but consideration of NFRs is important.

The problem definition is quite open, we want to see your ability with wide systems.

About enhancements, we do not expect a complete system design, more a high level description. Prepare your ideas for the upcoming interview!