# **Nasdaq Real Time prices**

## **Context**

Have you heard of [e-Toro](https://www.etoro.com/)? It's one of the leader in multi-assets investments. Founded in Israel in 2007, it now makes $1.2 billion in revenu as of 2021.

One the key component of the app is the ability to provide real-time stock prices to each of e-toro current assets to its customer.

As part of the data-engineering team, your role will be to provide an infrastructure that will provide such real-time access. To do so, you will need to use a financial API from [rapidAPI](https://rapidapi.com/amansharma2910/api/realstonks/) called RealStonks

## **Exercise Part I**

Using Realstonks API, create a producer with Kafka that will produce current prices of Tesla. To do so:

* Create an account on [RapidAPI](https://rapidapi.com/hub)
* Subscribe to [RealStonks](https://rapidapi.com/amansharma2910/api/realstonks/) API
* Using the provided tutorial, find a way to get the current price for Tesla
* Create a producer that will call the api every second and store the current price at the current timestamp in a topic called nasdaq\_prices
  + You should create a json-like data structure with time\_of\_price and current\_price as key

## **Exercise Part II**

Let's now create a consumer:

* Create a consumer that will simply prompt the current price of Tesla
* Then create a consumer that wait for 10 messages and store them in a Pandas dataframe
  + Check out official [Python Confluent Consumer API](https://docs.confluent.io/platform/current/clients/confluent-kafka-python/html/index.html#pythonclient-consumer)

## **Exercise Part III**

* Now try to store all the produced data in an S3 bucket as JSON using a connector
* Try to do the same on a [Heroku Postgres database](https://www.heroku.com/postgres)
* Optionnally try to do it without a premade connector!

Happy coding 👩‍💻