Directions:
Our standard interview process includes a programming exercise for all levels of positions on our team. **There's no time limit on it**, as it's intended to be able to fit around your other responsibilities (home and work). **Simply keep us updated on progress so that we know it's active**. Looking forward to it!

Programming Assignment:
The Twitter API provides a stream endpoint that delivers a roughly 1% random sample of publicly available Tweets in real-time. In this assignment you will build an application that utilizes that endpoint and processes incoming tweets to compute various statistics. We'd like to see this as a .NET Core or .NET Framework project, but otherwise feel free to use any libraries or frameworks you want to accomplish this task.

The Twitter API v2 sampled stream endpoint provides a random sample of approximately 1% of the full tweet stream. Your app should consume this sample stream and keep track of the following:
- Total number of tweets received
- Top 10 Hashtags

Your app should also provide some way to report these values to a user (periodically log to terminal, return from RESTful web service, etc). If there are other interesting statistics you'd like to collect, that would be great. There is no need to store this data in a database; keeping everything in-memory is fine. That said, you should think about how you would persist data if that was a requirement.

It's very important that when the application receives a tweet it does not block statistics reporting while performing tweet processing. Twitter regularly sees 5700 tweets/second, so your app may likely receive 57 tweets/second, with higher burst rates. The app should process tweets as concurrently as possible to take advantage of available computing resources. While this system doesn't need to handle the full tweet stream, you should think about how you could scale up your app to handle such a high volume of tweets.

While designing and developing this application, you should keep SOLID principles in mind. Although this is a code challenge, we are looking for patterns that could scale and are loosely coupled to external systems / dependencies. In that same theme, there should be some level of error handling and unit testing. The submission should contain code that you would consider production ready.
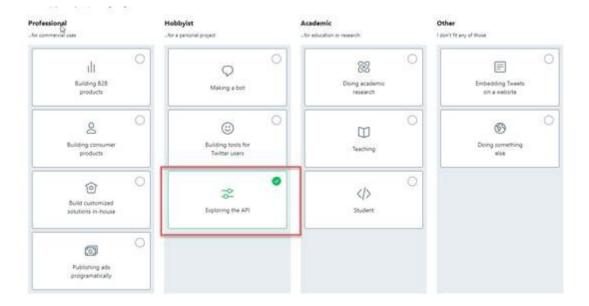
When you're finished, please put your project in a repository on either Github or Bitbucket and send us a link. Please be sure to provide guidance as to where the Twitter API Token is located so that the team reviewing the code can replace/configure the value. After review, we may follow-up with an interview session with questions for you about your code and the choices made in design/implementation.

While the coding exercise is intended to be an interesting and fun challenge, we are interested in seeing your best work - aspects that go beyond merely functional code, that demonstrate professionalism and pride in your work. We look forward to your submission!

Accessing Twitter API Key:
To obtain a Twitter API Key you will need to create/utilize a twitter account with an email address. During the application process you will also be asked to verify your phone number. You can apply here: Twitter API Access

Below are screenshots of recommended application inputs. These are recommendations based on our team's previously approved access. It is your decision if you choose to apply these recommendations. Once the application is complete you should receive a email to validate you application. In most cases, you will receive access immediately after confirming your email address.

Professional	Hobbyist	Academic	Other
...for commercial uses	...for a personal project	...for education or research	I don't fit any of those

Professional
...for commercial uses

○ Building B2B products

○ Building consumer products

○ Build customized solutions in-house

○ Publishing ads programatically

Hobbyist
...for a personal project

○ Making a bot

○ Building tools for Twitter users

✓ Exploring the API

Academic
...for education or research

○ Doing academic research

○ Teaching

○ Student

Other
I don't fit any of those

○ Embedding Tweets on a website

○ Doing something else

In your words

In English, please describe how you plan to use Twitter data and/or APIs. The more detailed the response, the easier it is to review and approve.

I am looking to explore the twitter APIs in a stub application using the stream API endpoints to consume some of the latest tweets the application that consumes this will not be published for consumption by the public

Response must be at least 200 characters ✓

The specifics

Please answer each of the following with as much detail and accuracy as possible. Failure to do so could result in delays to your access to the Twitter developer platform or rejected applications.

Are you planning to analyze Twitter data?　　　　　　　　　　　　No

Will your app use Tweet, Retweet, like, follow, or Direct Message functionality?　　　　　　　　　　　　　　　　　　　　　　No

Do you plan to display Tweets or aggregate data about Twitter content outside of Twitter?　　　　　　　　　　　　　　　　　No

Will your product, service or analysis make Twitter content or derived information available to a government entity?　　　　No

In general, schools, colleges, and universities do not fall under this category.