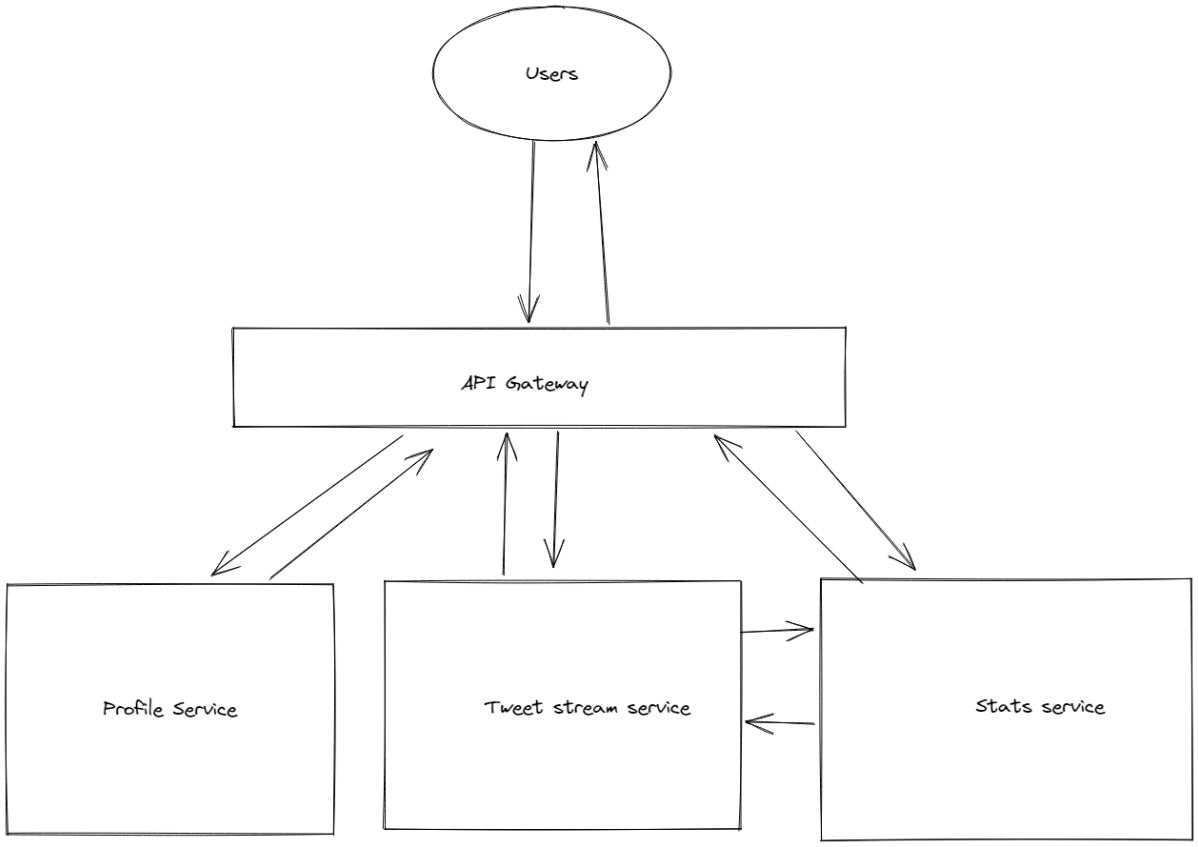
Introduction:

We have been tasked to build a clone of Twitter but at a small scale. The structure of the system would be as follows:



We have to build 3 services and an API gateway to aggregate calls to all of them from customers.

You can add Basic UI but not necessary.

The services have the following functionality:

- **Profile Service:** Will serve the profile data: username, name, email and a picture for the user. It will also allow you to edit the data. **No need to use a database**: a simple file would work just fine.
- **Tweet Stream Service:** This service will serve all the tweets for the user and will allow you to post new tweets. Similarly to the profile Service, we don't need to use a database, a file to save the data will work fine.
- **Stats service:** This service returns a list of stats for the user:
    - How many tweets
    - How many tweets in the morning (up to 12 pm)
    - How many tweets in the afternoon/evening (up to 12 am)

API Gateway: The API Gateway will expose the following endpoints:

- Global position: Will return the profile, list of tweets for the user and stats for the same.
- Most recent tweets: the last 10 tweets.
- It will also allow the user to route calls to edit profiles and add tweets.

In other words, all the calls into the services should be routed through the API gateway .

There is no need to manage the users, or to authenticate them: assume there is a single user and it can be hardcoded in the services. They are accessible without any credentials.

We want the system to be containerized and it will be deployed in Kubernetes using a Helm Chart.

Deliverables

Based on your back end program (Java) these are the items that will be assessed:

Item
Code of the **4 - microservices** described above + Docker files for every service
Kubernetes Helm Chart to deploy the system in Kubernetes (one for all the services)
Correctness of the code (HTTP codes, exception handling, validation of the data…)
Recorded Video of Running Project(How to run the system (deployment and operation))