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SOFT8026 – Data Driven Microservices
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SDH4-A
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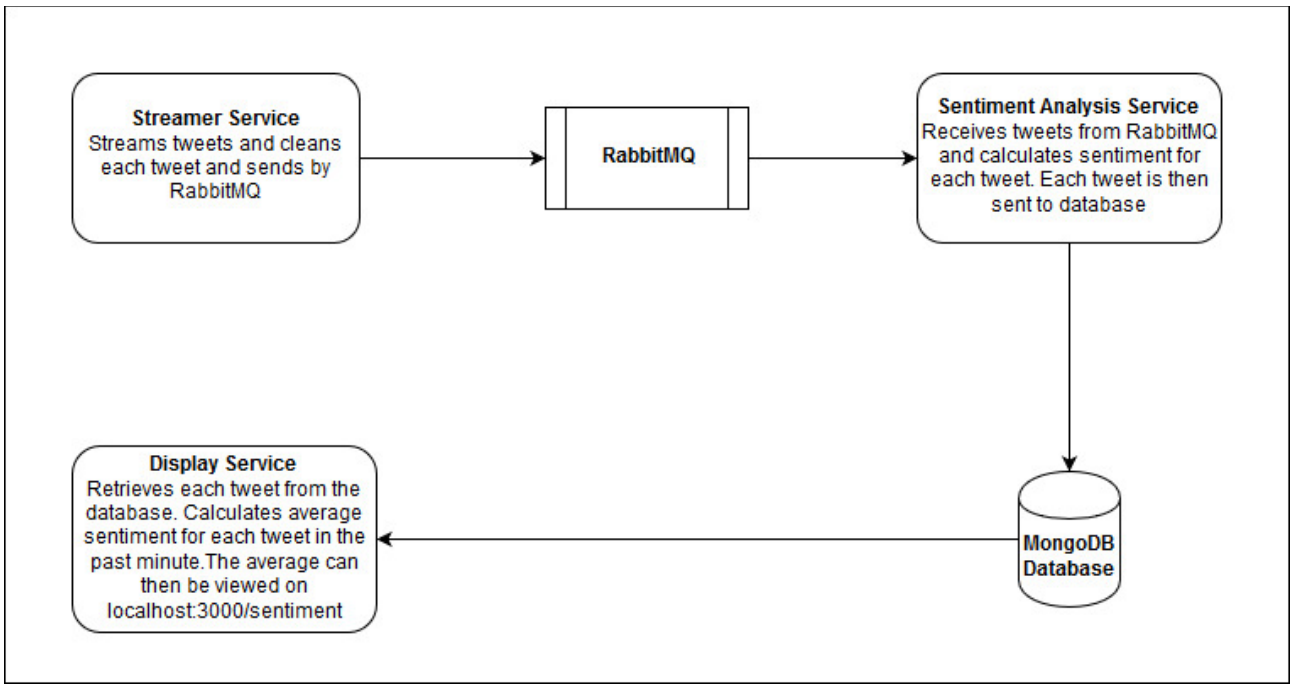
Assignment 1

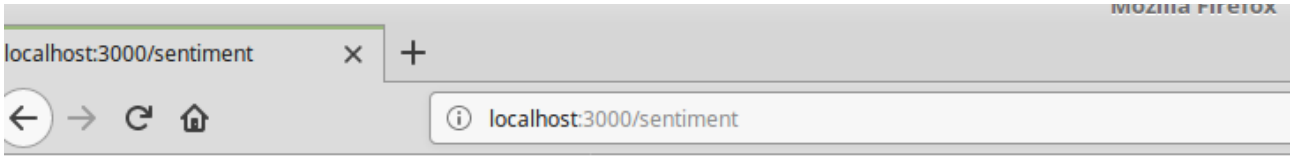


This diagram illustrates each service in the application and transport and database

Streamer Service:
Using tweepy (the Python twitter client) this service streams each current tweet on Twitter containing a searched word. For this assignment I used *"brexit"* as the search word. After each tweet has been streamed and cleaned of any characters that arent letters, the service then adds the tweet to a RabbitMQ queue to send.

Sentiment Service:
The sentiment service then receives each tweet from the RabbitMQ queue. The application then uses Textblob to get the sentiment score for each tweet. Textblob is a Python library for analysing text data. After analysing a tweet, Textblob shall calculate its sentiment score in the range of 0 to 1. (0 meaning negative and 1 meaning positive). After calculating the sentiment score for the tweet, the service then stores the tweet in a MongoDB database along with the name of the searched word, the time of the tweet and the score.

Display Service
The display service receives the contents of the database. The service goes through all the tweets in the database. By checking the time on each tweet, the service calculates the average of all the tweet's scores, for the tweets that were tweeted a minute ago at the most. After the average score has been calculated has been calculated, using Flask the service diplays, the name of the searched word (*"brexit"* in this case) and the average score for all the tweets from the past minutes, rounded to 2 decimal places. This can be viewable from "http://localhost:3000/sentiment" in the browser.



Data-Driven Microservices

Assignment 1 - Twitter Sentiment Analysis

The average sentiment score for "**brexit**" based on Tweets, in the past minute is **0.37**