**Question 1:**

**References:**

<https://apps.twitter.com/>

<https://kafka.apache.org/quickstart>

<https://www.elastic.co/downloads/>

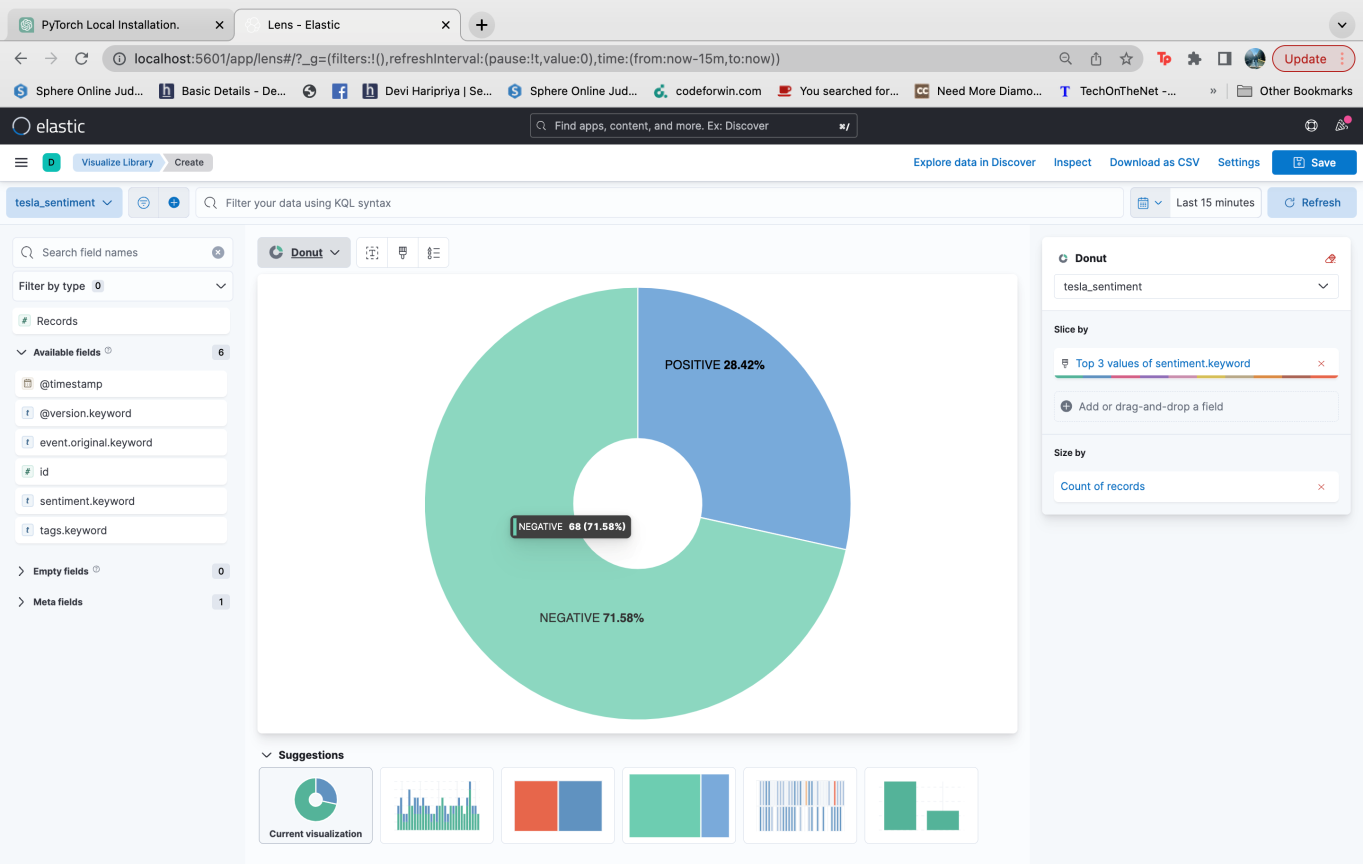
<https://spark.apache.org/docs/latest/structured-streaming-kafka-integration.html>

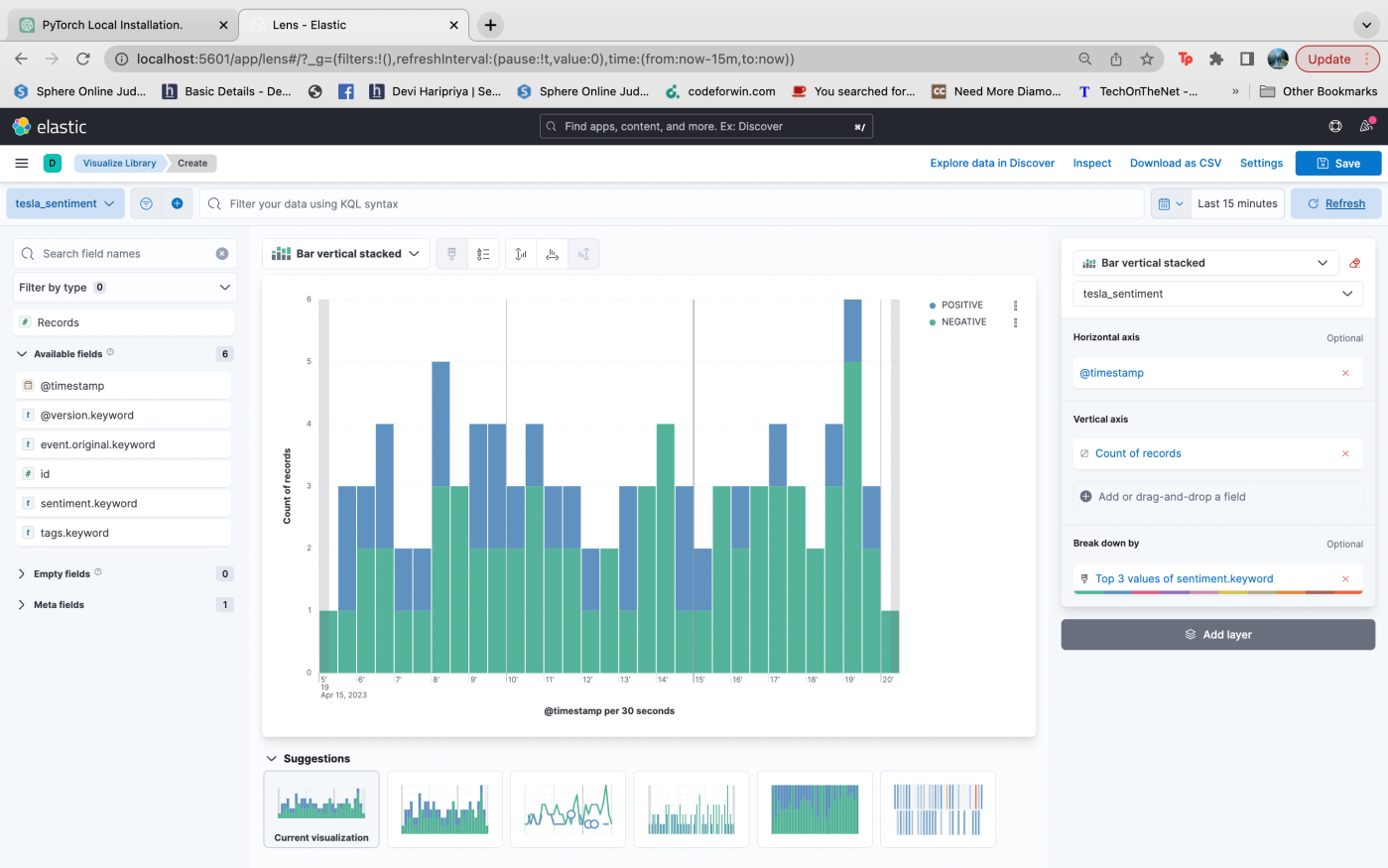
<https://www.elastic.co/guide/en/logstash/current/installing-logstash.html>

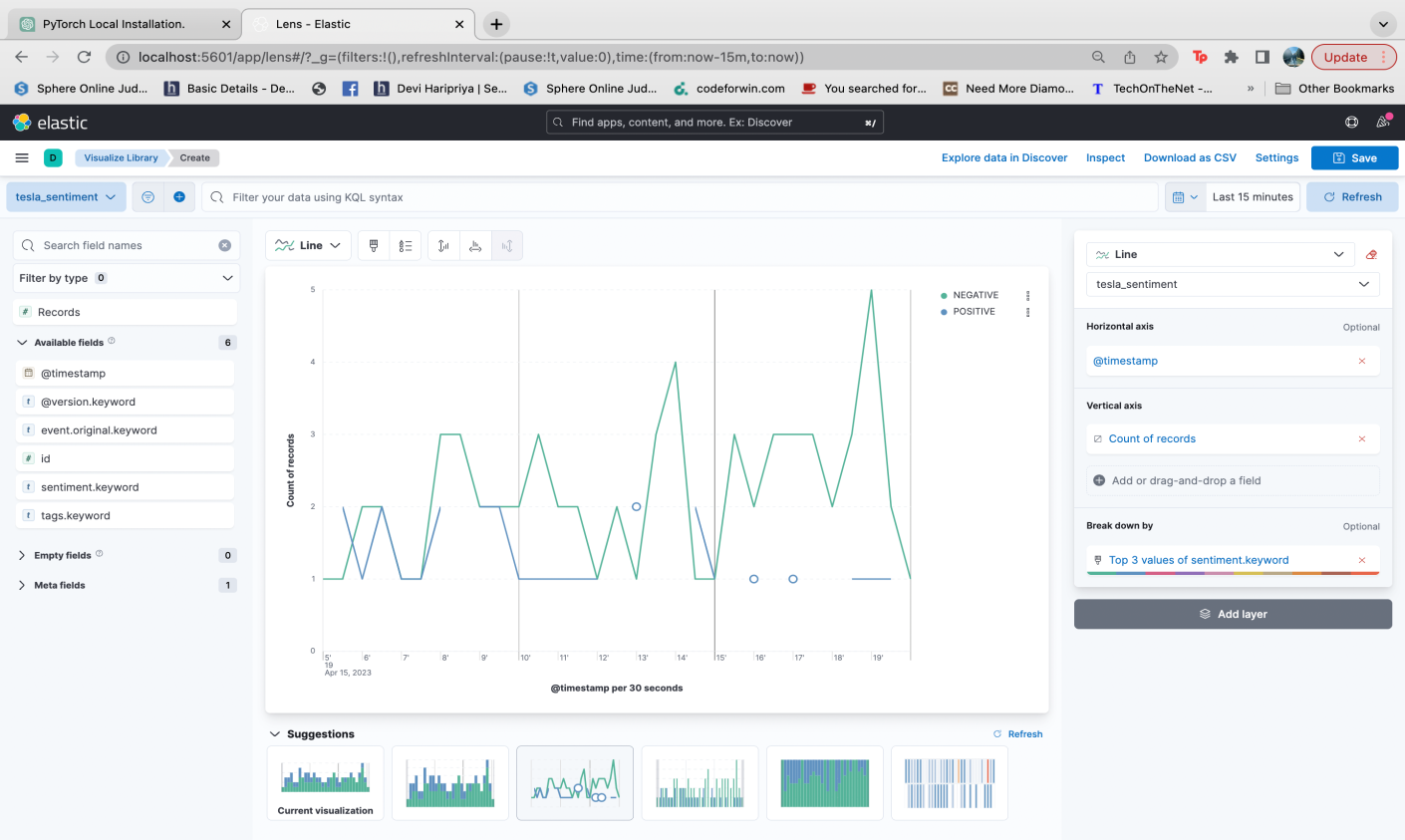
To connect to Kafka and collect tweets with the hashtag #Tesla, you can modify the config.ini file as necessary. In addition to the Kafka configuration settings, the file also includes search parameters for the Twitter API. The Docker Compose tool can be used to create Kafka, Elasticsearch, Logstash, and Kibana containers.

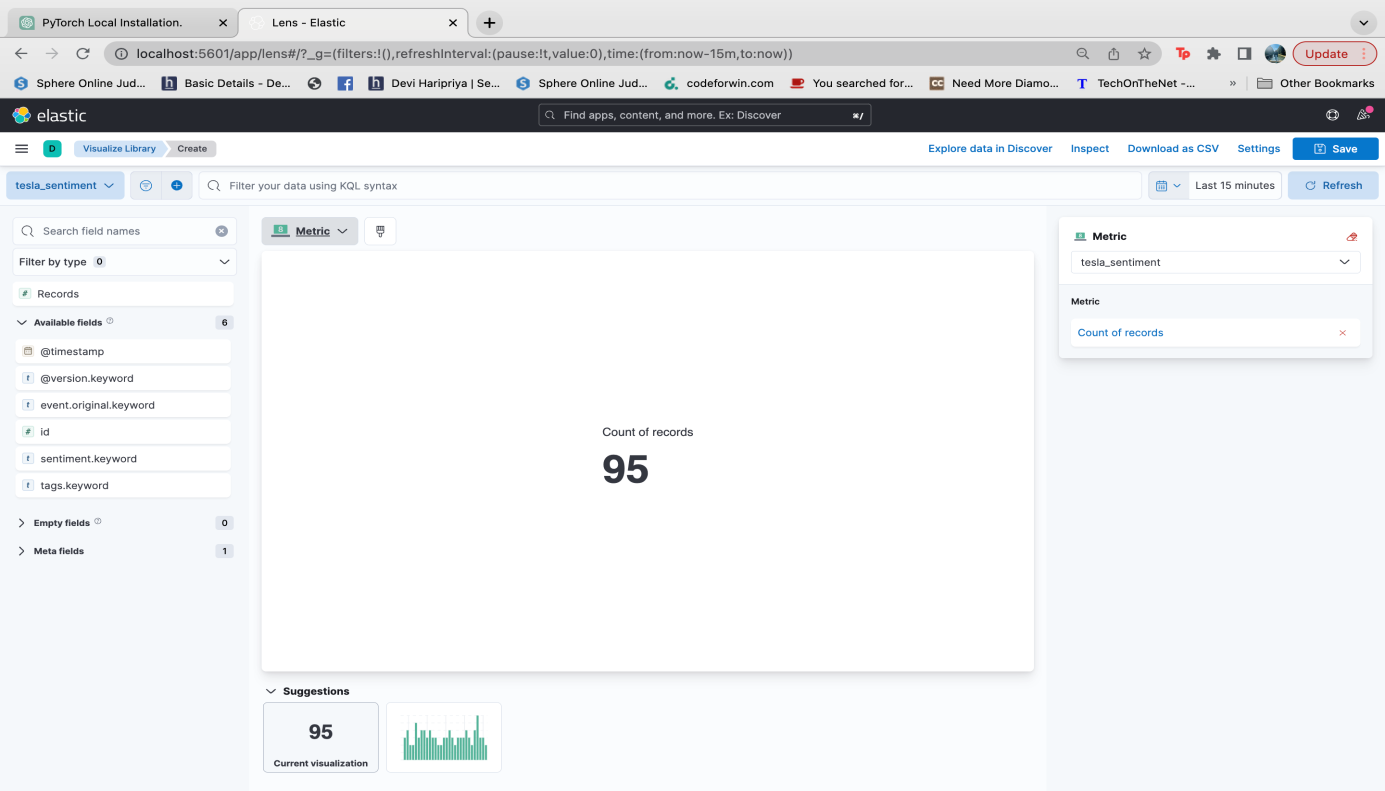
After running the application and collecting the tweets, it is possible to analyze the sentiment of the tweets. For the search term #Tesla, the sentiment analysis showed that the majority of the tweets were negative, with a percentage of 71.58%.

Following are Evidences

****

****

****

****