Kubernetes Sentiment

Description

We will be utilizing the tutorial found [here](https://github.com/rinormaloku/k8s-mastery). He references a github link that I would recommend using so you don't have to type any code.

Do start at the beginning of the tutorial.

- git clone [https://github.com/rinormaloku/k8s-mastery](https://github.com/rinormaloku/k8s-mastery)

Here is the quick and dirty to get part 1 done (without docker or k8s):

- **frontend**
  - cd sa-frontend
  - sudo apt install npm nginx
  - npm install
  - npm run build
  - sudo cp -r build/* /var/www/html
  - service nginx restart
  - Make sure it loads in the browser now

- **webapp**
  - cd sa-webapp
  - sudo apt install maven
  - mvn install
  - cd target
  - java -jar sentiment-analysis-web-0.0.1-SNAPSHOT.jar --sa.logic.api.url=http://localhost:5000

- **logic**
  - cd sa-logic
  - sudo apt install python3
  - sudo apt install python3-pip
  - cd sa
  - pip3 install -r requirements.txt
  - python3 -m textblob.download_corpora
  - python3 sentiment_analysis.py

Now when you load your web interface, the sentiment app should work. Note: If you are running this on a remote vm, you will have to construct a few tunnels to make everything work. My command was something like this: `ssh jfrancom@ssh.cs.dixie.edu -L 8888:144.38.193.248:80 -L 8080:144.38.193.248:8080`. Then you will visit [http://localhost:8888](http://localhost:8888) in the browser. So, nginx is hosting the frontend at port 80, it then sends some information to the python module on port 8080.

Move on to dockerize everything.

When you get to the docker section, everything should work, but if you are working on a machine that is not localhost, you should edit the src/App.js in the frontend area and put the ip address of your remote machine that you are running on. In the README file of sa-logic, when you run your container you should use port 5000 for both sides... NOT 5050.

Here are the basic docker commands:

```bash
cd sa-frontend
sed -i 's/localhost/144.38.193.248/ src/App.js
npm run build
docker build -t jfrontend .
docker run -d -p 80:80 jfrontend
cd ../sa-webapp
docker build -t jwebapp .
docker run -d -p 8080:8080 -e SA_LOGIC_API_URL='http://144.38.193.248:5000' jwebapp
cd ../sa-logic
docker build -t jlogic .
docker run -d -p 5000:5000 jlogic
```

(Ignore anything that relates to Minikube, you should already have kubectl installed and running in Microk8s).

Before loading your deployments, you should run `microk8s enable dns`.
At the very end, it asks you to update the IP address inside of App.js. The IP address that you should use, should be your public IP address. The port number will be the port number given to you by the output of `kubectl get svc`.

**To Pass off**

Prove to me that you have a kubernetes cluster running and can view sentiment analysis.