Twitter Sentiment Analysis Project

Perform Sentiment Analysis on tweets with certain #Hashtag

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Project Requirement:

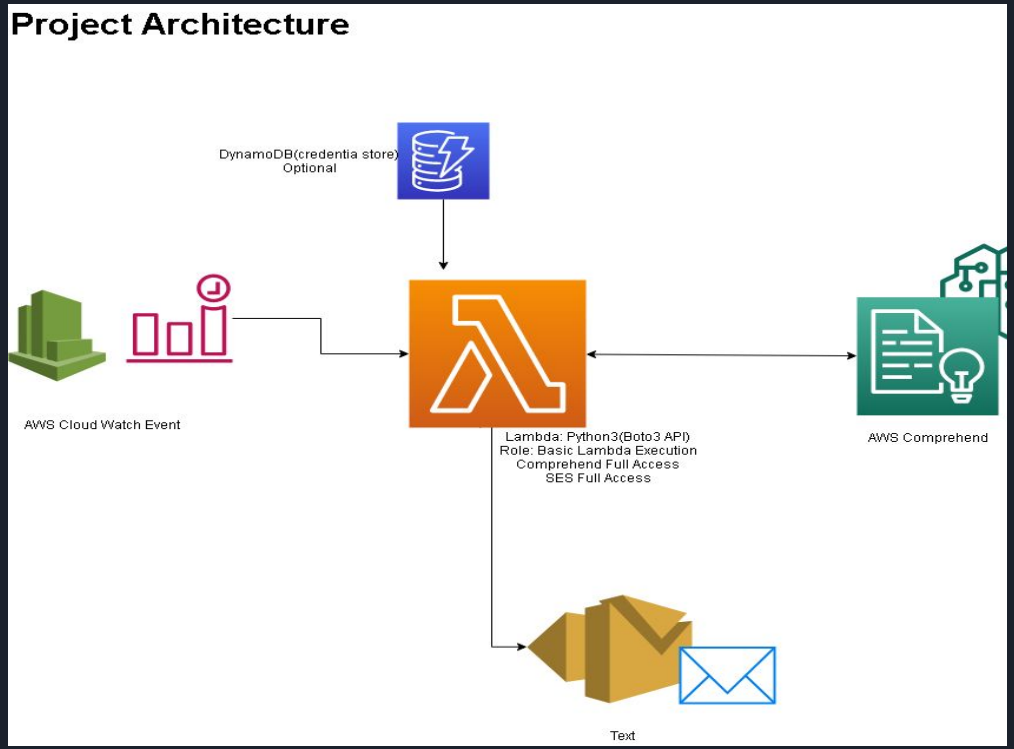
- Requirement 1:
  1. Write Python Program to fetch not more then 200 tweet from twitter with hashtag ‘#atamnirbharbharat’
  2. Use ML to classify tweets into positive or negative.
  3. Get the result as an Excel File.
- Requirement 2:(Optional)
  1. Get the containterize the above program.
  2. Add a web interface.
  3. User should be able to search any hashtag in the web application.
  4. Application should give option to download the search result as an excel file

Functional Requirements and Proposed Solutions

Following requirement need to fulfilled for solution to be deployed.

1. Twitter Developer Account(Required)
    a. Twitter Developer Account, with Premium Subscription
    b. App and deployment environment need to created in twitter developer account.
2. Proposed Solution 1: AWS Lambda Deployment: User will receive the result in daily mail
    a. AWS lambda function with Python 3 with minimum specs.
    b. Roles for lambda:
        i. Basic Lambda execution Role. (for monitoring and logging)
        ii. AWS Comprehend Full Access: (pretrained sentiment Analysis model provide by AWS)
        iii. SES FullAccess: (to send resulting excel to user over mail)
    c. Access tokens for twitter API
3. Proposed Solution 2: Standalone Python 3 Script: User may need to run the script manually to get the results.
    a. Python Module: TextBlob, oauth2, re, virtualenv.
    b. Access Token for twitter search API
4. Web Based Deployment:(Flask web App)
    a. Ubuntu Server(18.04 recommended)
    b. Docker Engine
    c. Access Token for twitter Search API
    d. Docker Application Image, Runtime: Python 3; Modules: virtualenv, Flask, TextBlob, re, xlwt

AWS Lambda Deployment



Stand Alone Python Script

1. Create twitter app and get twitter credential
2. Store credentials in a credential file.
3. Install Requirement.
4. Run the script.

Deliverables

1. Python script
2. Workbook notebook: guide on steps performed.
3. Requirement files: requirement.txt

Docker Deployment

1. https://github.com/AnkurAvishek/Twitter_App
2.

```
FROM ubuntu:18.04
RUN apt-get update && apt-get install -y python3 python3-pip

ENV WORKDIR   /var/flask_app
RUN mkdir -p $WORKDIR
COPY main.py $WORKDIR
COPY requirements.txt $WORKDIR/
COPY templates/* $WORKDIR/templates/
COPY credential.py $WORKDIR

RUN pip3 install -r $WORKDIR/requirements.txt && python3 -m textblob.download_corpora

#ENV consumer_key=${consumer_key}
#ENV consumer_secret=${consumer_secret}
#ENV access_token=${access_token}
#ENV access_token_secret=${access_token_secret}

ENV FLASK_APP=$WORKDIR/main.py

EXPOSE 8000/tcp
#ENTRYPOINT [""]
CMD ["python3", "/var/flask_app/main.py"]
```