IBM HACKCHALLENGE 2020

SENTIMENT ANALYSIS OF COVID-19 TWEETS-VISUALIZATION DASHBOARD

TEAM NAME: **HellRaisers**

Application ID:- SPS_CH_APL_20200001318

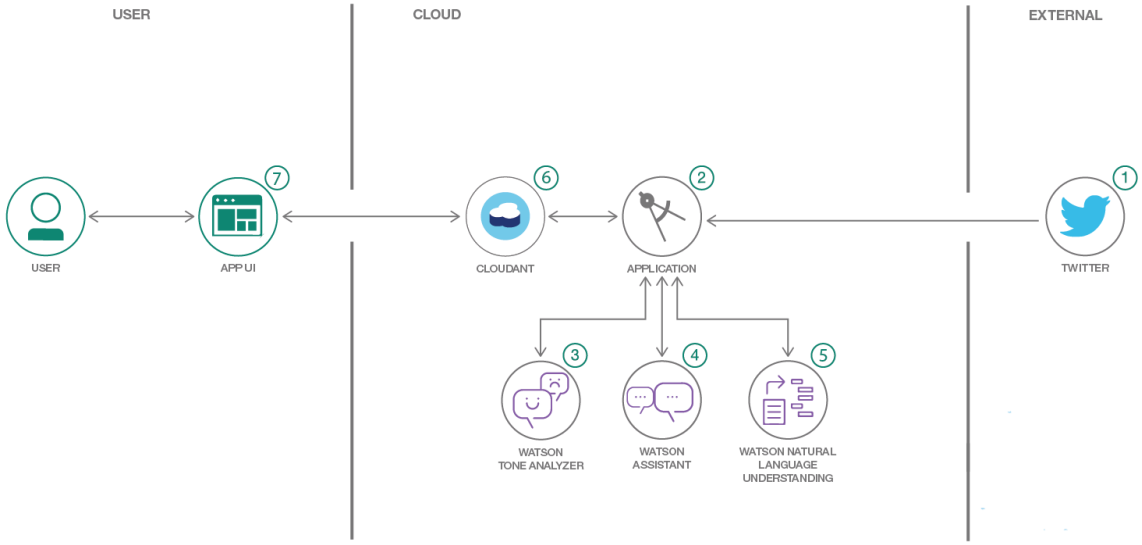
TEAM NAME	HELLRAISERS
TEAM LEAD	UGENTHAR V
TEAM MEMBER	VENKATESH S
TEAM MEMBER	SARAVANA T
TEAM MEMBER	VIDHYA S

Challenge Title	:	IBM Hack Challenge 2020
Project ID	:	SPS_PRO_331
Project Title	:	SENTIMENT ANALYSIS OF COVID-19 TWEETS-VISUALIZATION DASHBOARD

----------CONTENTS----------

Project Description:

The main of the project is to do the sentiment analysis on the tweets about the COVID-19 in the Twitter.The API is used to connect the communication between the Node-red application and the Twitter.The Twitter Node that is found in the Node-red application is used as the source to give the tweets about the COVID-19 .The Important node that is used to give the sentiment score is the sentiment node that is found in the Node-red application.The tweets are given as the input to the Sentiment node the sentiment node separates the tweets as POSITIVE,NEUTRAL AND NEGATIVE.If the value is positive then there was positive thing going on the twitter, if the sentiment score is negative then there was negative action going on the twitter .If the value is neutral then there was a neutral action going in the twitter.It will be very helpful to known about the public opinion.



Project Scope, Schedule, Team & Deliverables:-

- Project Summary
- Project Requirements
- Functional Requirements
- Technical Requirements
- Software Requirements
- Project Deliverables
- Project Team

- Project Schedule

PROJECT SUMMARY:

The main of the project to declare the information to the public about the sentiment of the COVID-19 in the world through the twitter.

The news about the COVID-19 are extracted from the twitter and that are analysed and grouped into two sentiments as positive, negative and neutral.

If the tweets from twitter are negative about the COVID-19 then the sentiment value will be negative (range -1 to -100).If the tweets from the twitter are positive about the COVID-19 then the sentiment value will be positive (range 1 to 100).

If the tweets are neutral then the sentiment value will be exactly equal to zero(0).The project is completely made up of the software provided by the IBM CLOUD.

Based on this sentiment people can understand the situation about the COVID-19 having the positive sentiment/negative sentiment/neutral. This also creates the awareness among the public whether to come out or to wear mask or to maintain the social distance.

The outputs will be displayed on the dashboard in the unique link .The ouput are displayed in the three formats namely Gauge[1],Graph[2],Sentiment Value Box[3] and the News Box[4].

PROJECT REQUIREMENTS:

1] Knowledge About Watson Services

2] Node Red Application

3] Twitter Node

4] Sentiment Node

5] Function Node & Gauge Node

6] Flow of the Project

FUNCTIONAL REQUIREMENTS:

To Do the Sentiment Analysis the Node red application is used to generate the Sentiment analysis.

In order to get the sentiment analysis as the output from the sentiment node the functional node is used here.

The knowledge about the node.js in order to complete the project.

TECHNICAL REQUIREMENTS:

The important tool that is required to get the output from twitter is the API key .

The API key which is used to fetch the tweets from the twitter to generate the sentiment analysis.

SOFTWARE REQUIREMENTS:

IBM CLOUD SERVICES

TWITTER API KEY

NODE RED APPLICATION

PROJECT DELIVERABLES:

The ouput of the sentiment analysis is showed in the dashboard

The dashboard is created using the nodered applicaton.

UI is used here.

PROJECT TEAM:

Team Name: HellRaisers

Team lead: Ugenthar V

Team Members:

1. Venkatesh S
2. Saravana T
3. Vidhya S

PROJECT SCHEDULE:

Duration : 12.5 Days

1]INTRODUCTION:

The main of the project is to do the sentiment analysis on the tweets about the COVID-19 in the Twitter.The API is used to connect the communication between the Node-red application and the Twitter.The Twitter Node that is found in the Node-red application is used as the source to give the tweets about the COVID-19 .The Important node that is used to give the sentiment score is the sentiment node that is found in the Node-red application.The tweets are given as the input to the Sentiment node the sentiment node separates the tweets as POSITIVE,NEUTRAL AND NEGATIVE.If the value is positive then there was positive thing going on the twitter, if the sentiment score is negative then there was negative action going on the twitter .If the value is neutral then there was a neutral action going in the twitter.It will be very helpful to known about the public opinion.

1.1]OVERVIEW:

The overview of the IBM HACKCHALLENGE 2020 Problem for COVID-19 sentiment analysis is to do the sentiment analysis for the tweets that were tweeted by the public n the social meda about the corona vrus .

1.2]PURPOSE:

The usefulness is that it creates the awareness of the COVID-19 among the public.

- **The website contains the sentiment of the covid-19 based on the tweets in the twitter by the people.**

- **The sentiment gives the information among the people about the seriousness of the COVID-19 among the public.**

- **The website also gives the sentiment data about the COVID-19 .**

- **The website also gives the tips and ayurvedic medicine tips to protect against the COVID-19.**

- **The website also gives the information about the wearing of the mask and the handwashing.**

- **This also helps the government to extract the data about the COVID-19 among the public.**

2]LITERATURE SURVEY:

2.1]EXISTING PROBLEM:

The Existing problem is that the news some times obtained is not uderstood by the people whether it is a Negative or it is the positive.

2.2]PROPOSED SOLUTION:

This is will help to divide the news into three sentiments namely:

1.POSITIVE(sentimnet value>=1)

2. NEGATIVE(sentiment value<0)

3. NEUTRAL(sentiment value=0)

Example:

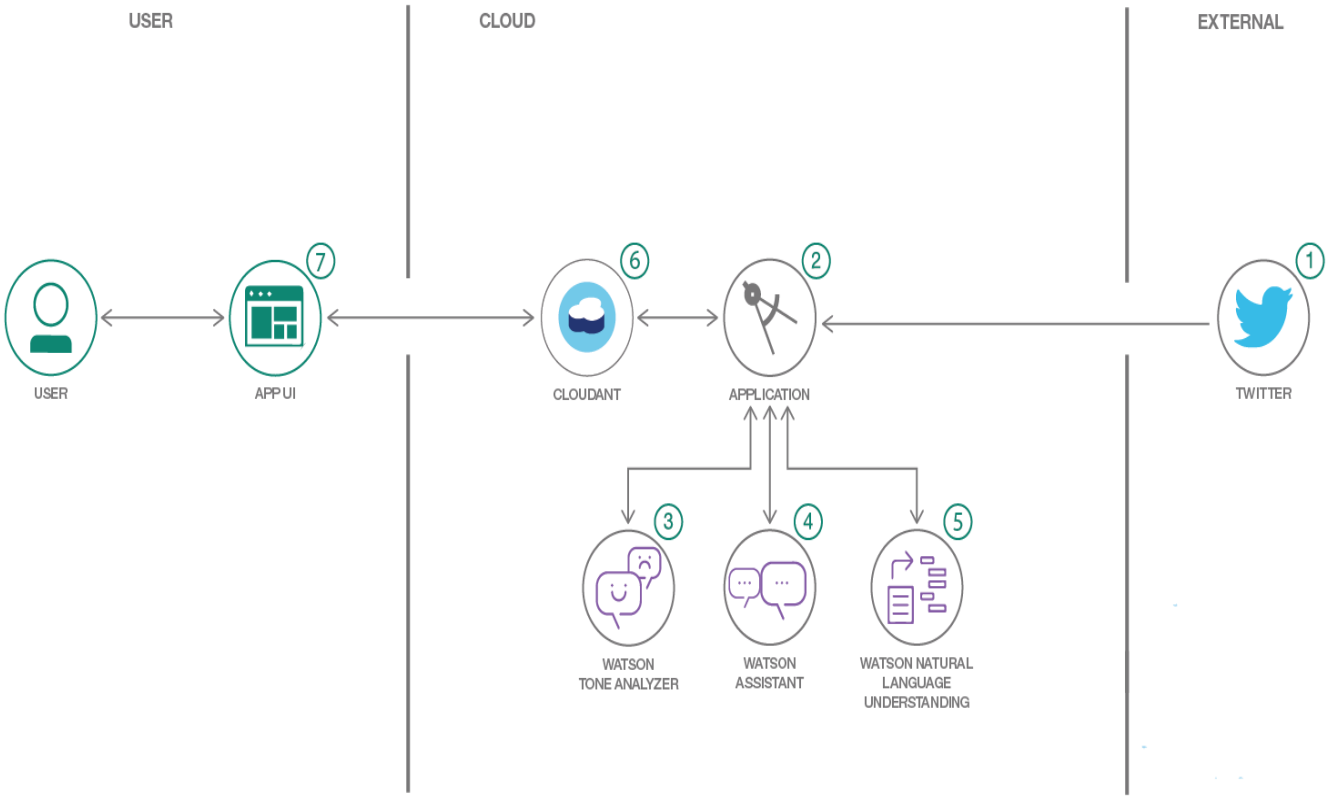
Let us take the exisiting situation about the COVID-19

People donot known the current situation is positive or negative about the corona . The idea is made in the form of the website where it gives the exact current situation about the covid-19.

```
if(sentiment_value==0):
    then output is NEUTRAL
else if(sentiment_value>0):
   then output POSITIVE
else:
  the output NEGATIVE
```

3]THEORITICAL ANALYSIS:

3.1]BLOCK DIAGRAM:


USER
CLOUD
EXTERNAL
USER
APP UI
CLOUDANT
APPLICATION
TWITTER
WATSON TONE ANALYZER
WATSON ASSISTANT
WATSON NATURAL LANGUAGE UNDERSTANDING
1
2
3
4
5
6
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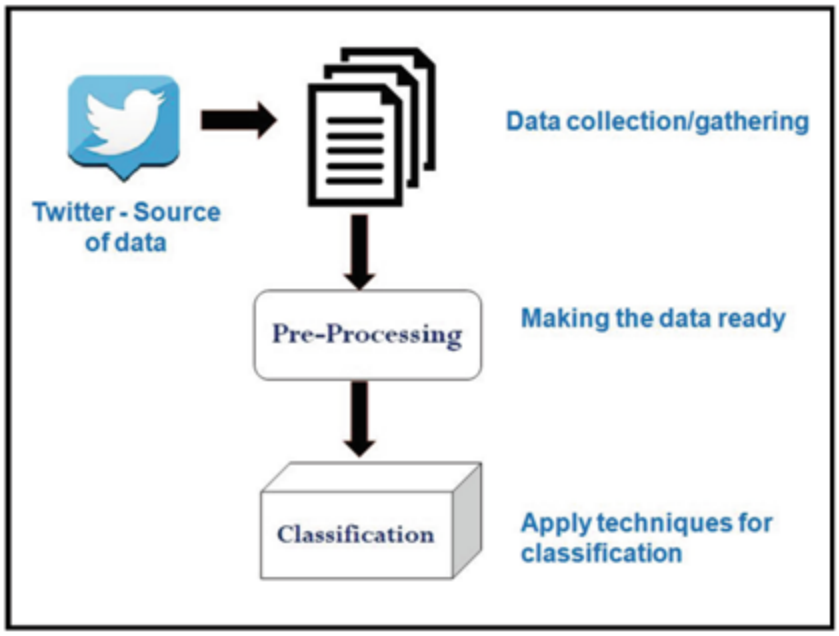

Twitter - Source of data
Data collection/gathering
Pre-Processing
Making the data ready
Classification
Apply techniques for classification

3.2]SOFTWARE DESIGNING:

The Software is designed with the help of services provided by the IBM CLOUD SERVICES

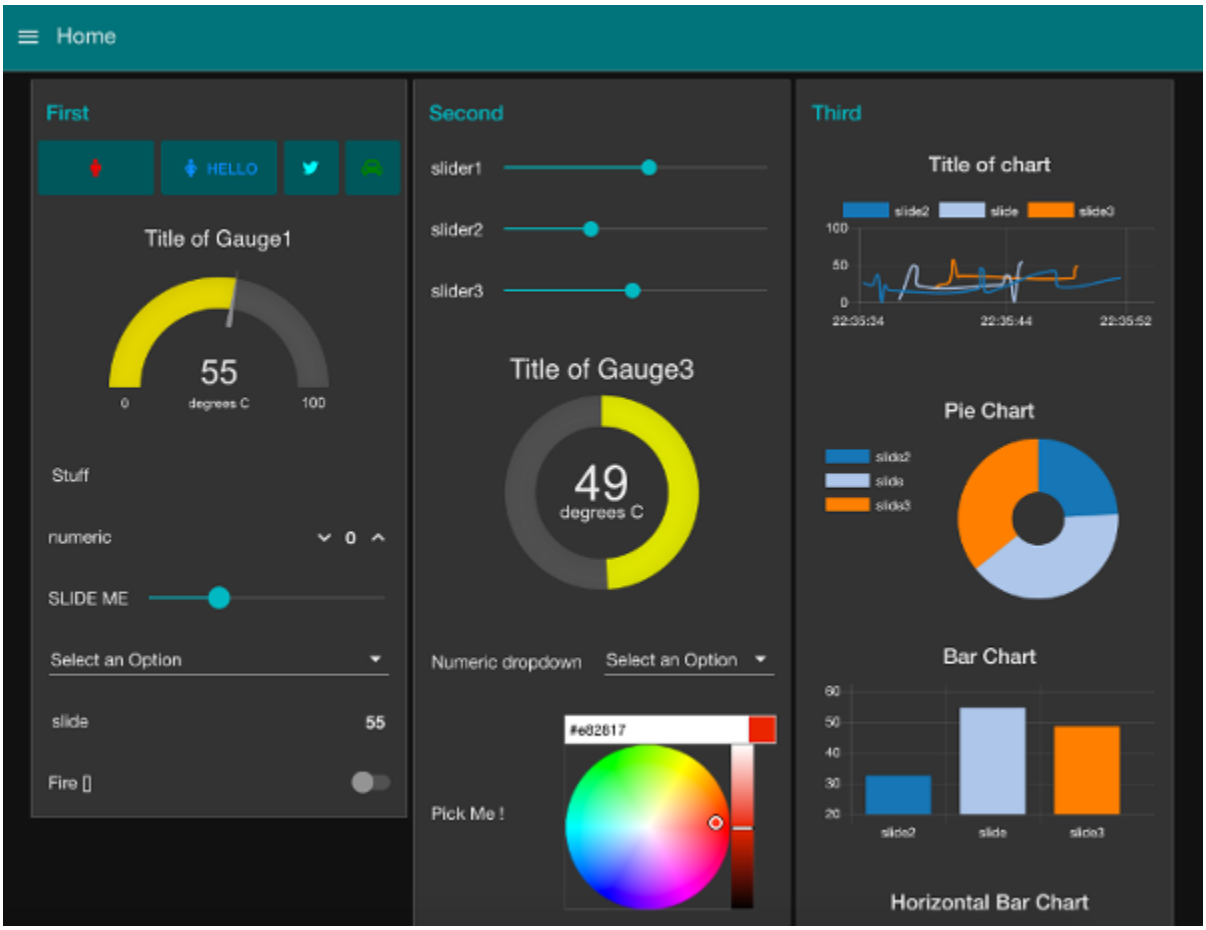
ABOUT IBM CLOUD SERVICES:

IBM Cloud provides a full-stack, public **cloud** platform with a variety of offerings in the catalog, including compute, **storage**, and networking options, end-to-end developer solutions for app development, testing and deployment, security management **services**, traditional and open-source databases, and **cloud**-native .

NODE RED APPLICATION:

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. It provides a browser-based editor that makes it easy to wire together flows using the wide range of nodes in the palette that can be deployed to its runtime in a single-click.

Node-RED



4.] FUNCTIONS:

The Function of the COVID-19 Sentiment is that it spread the wareness among the public and the statistical data can derived using the COVID-19 Sentiment Analysis in the Simple Way.

It Consists of the Website + Application. I Have Built the Application Using the MIT APP

5] EXPERIMENTAL ANALYSIS:

I have done Various Experiment Analysis on this Covid-19 Sentiment Analysi. OBSERVED that is gives:

POSITIVE:

>1

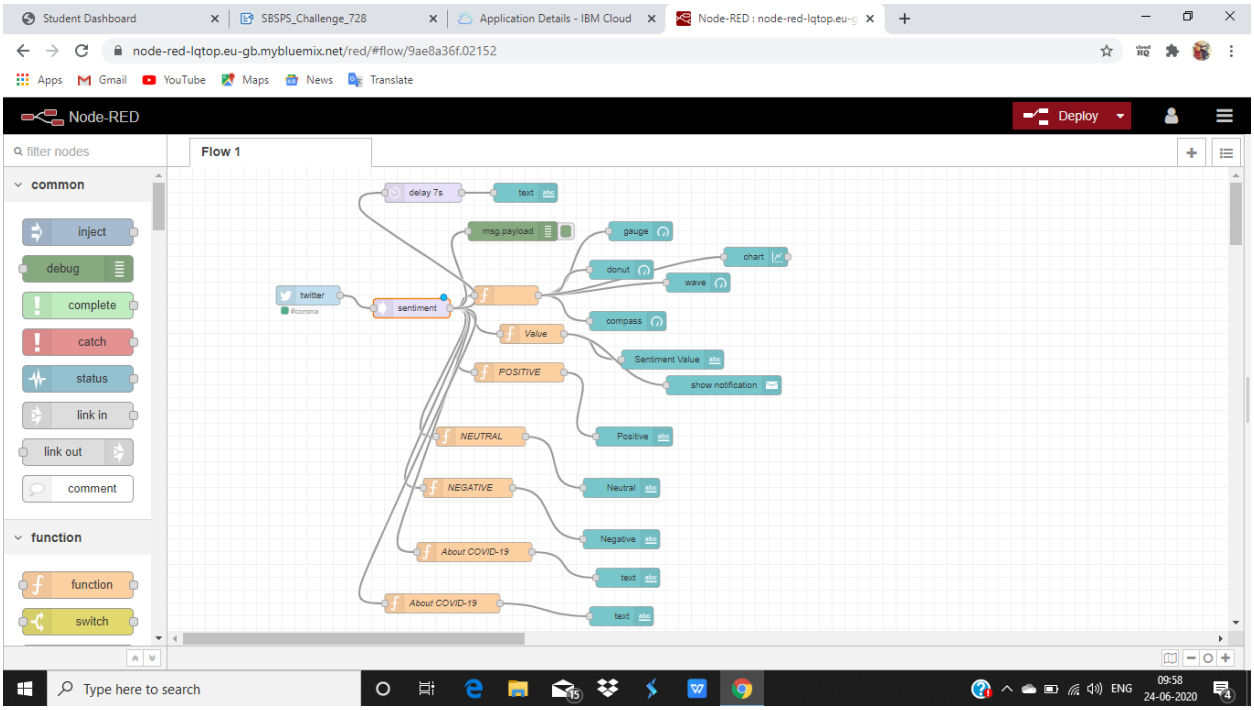
NEGATIVE:

<1

NEUTRAL:

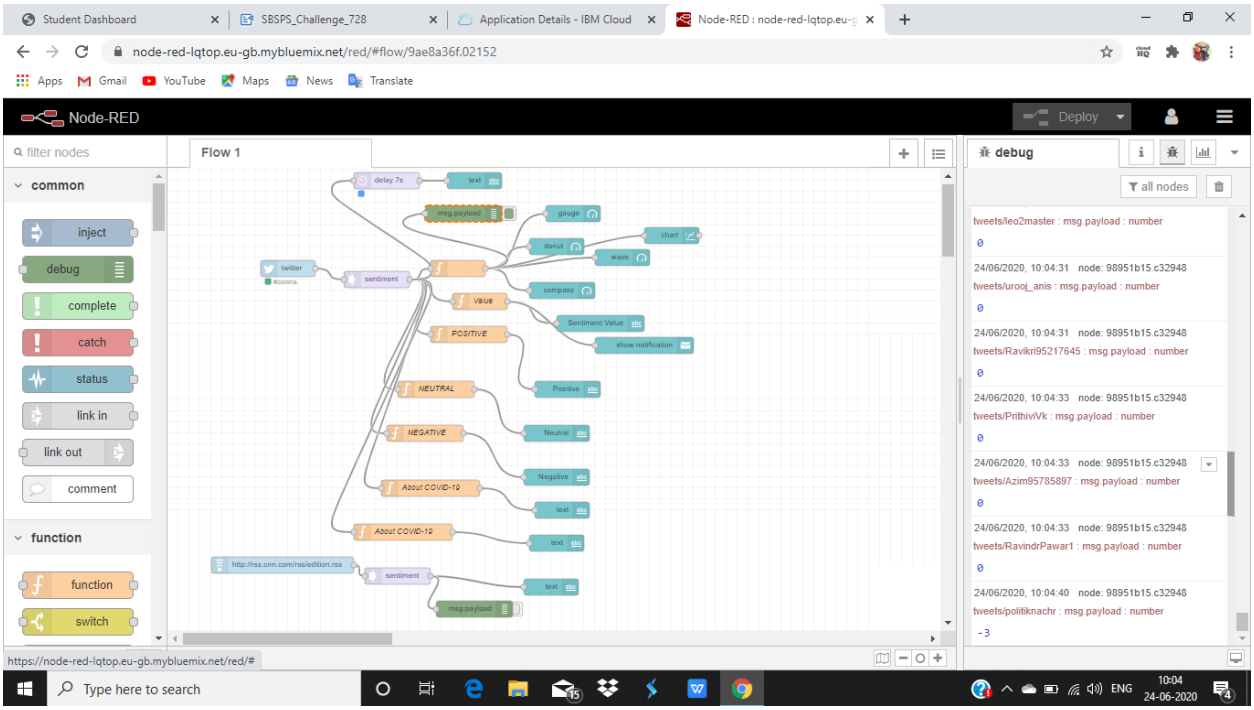
=0

6] FLOWCHART:

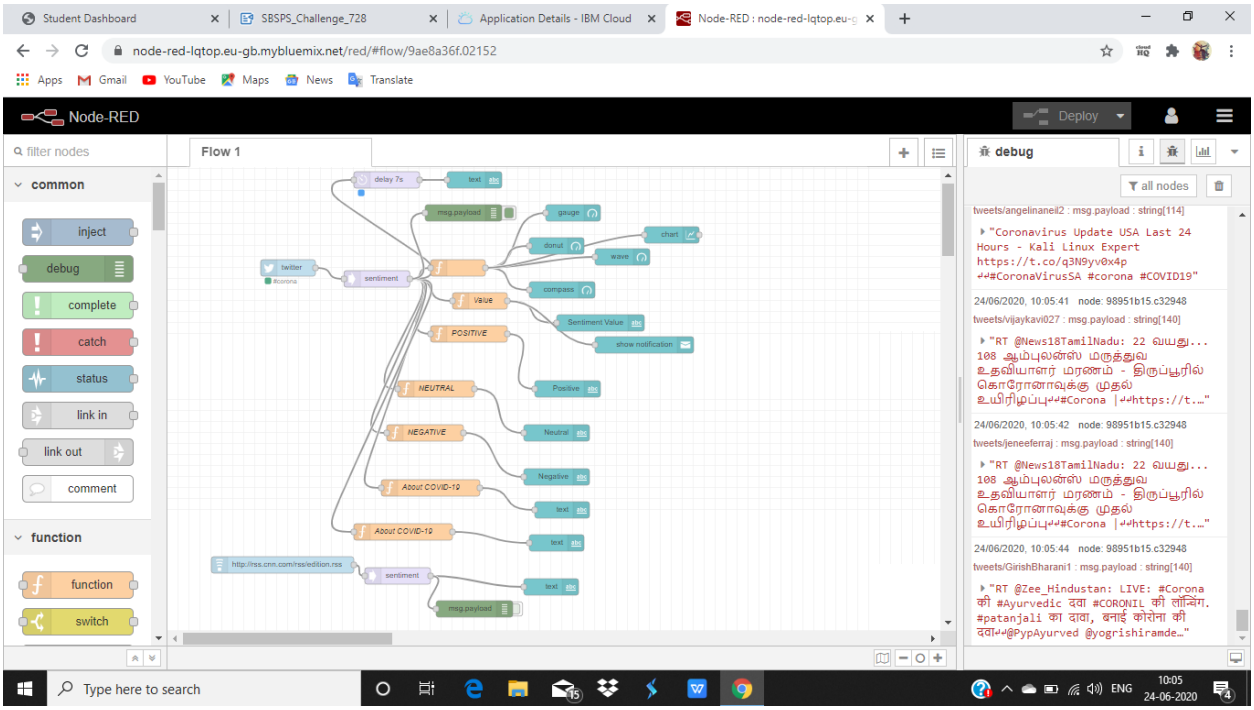


7] RESULTS:

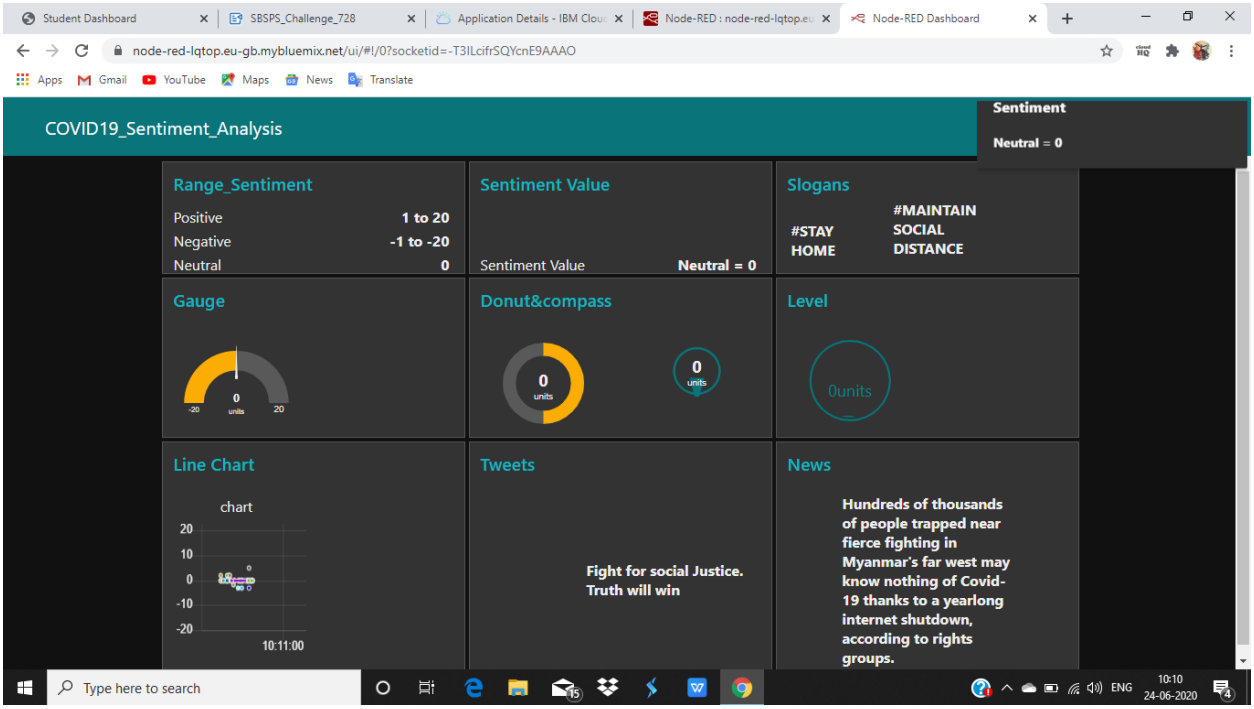
The sentiment values in the debug



NEW MESSAGE OF RESPECTIVE SENTIMENTS



8 & 9] OUTPUT OF SENTIMENT ANALYSIS AND DASHBOARD



10]ADVANTAGES :

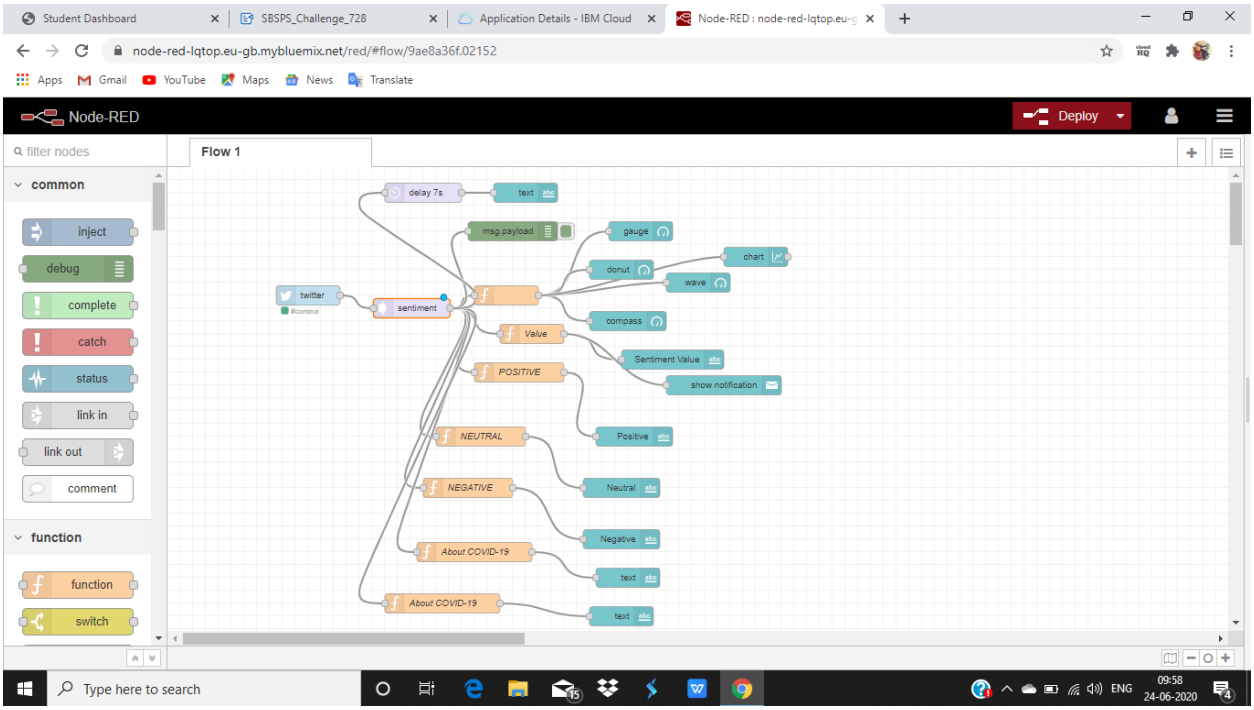
Helps to make awareness among the public
Gives the sentiment values
simple to handel
simple to get any statistical data
DISADVANTAGES:
Some times the dashboard losts its connection due to the server proiblem.

11] BIBLOGRAPHY:

My reference to make this project is the bootcamp that I have attended conducted by the SMARTZ_INTERNZ

12] SOURCE CODE:

There is no source code for this project the project is made up of nodes provided by the node red application.



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