API Documentation

This document guides the user on how to utilize the API and fetch the required data according to the requirement.
This API uses various API sources such as Twitter API, Rapid API, Nasdaq API for its own database. The data extracted from the above mentioned sources is cleaned and transformed and ingested to the database “twitter_db”.

Note **=>** All the date parameters mentioned in the URLs below are optional, but the user has to provide the key names in the URL to fetch the data.
Ex. http://127.0.0.1:8086/api/query1?startdate=&&enddate=

Date format for passing as an argument => yyyy-mm-dd

Base URL => http://127.0.0.1:8086/api

1. To check if the server is up and running perfectly
   http://127.0.0.1:8086/api/hello

   Output => Welcome to the webpage of our server…

2. To fetch all the data present in the collection “covid_tweets”
   http://127.0.0.1:8086/api/all

Structure of the document =>


```
{
   "_id" : ObjectId("62a6fa37fa4fac18b6f39145"),
   "created_at" : ISODate("2022-05-31T17:54:08.000Z"),
   "id" : "1531695538206294016",
   "text" : "RT @toadmeister: Today's update on the Daily Sceptic is here. Nick Bowler on evidence the Covid vaccines are fatal for one in 4,000 doses;…",
   "truncated" : "false",
   "user_name" : "Sheron Cox",
   "user_screen_name" : "SheronC01571447",
   "user_location" : "south west",
   "entities_hashtags" : "[]",
   "lang" : "en"
}
```


3. To fetch the data for Query - 1, pass the parameters startdate and enddate
   http://127.0.0.1:8086/api/query1?startdate=2022-03-20&&enddate=2022-04-20

Output => It will present all the locations along with the no. of tweets made from that region between March 20, 2022 to April 20, 2022 in the descending order of the tweet count

Structure of the document =>


```
[
	{
		"_id": "India",
		"tweet_count": 41
	},
	{
		"_id": "United Kingdom",
		"tweet_count": 32
	},
	{
		"_id": "United States",
		"tweet_count": 32
	},
	{
		"_id": "Canada",
		"tweet_count": 25
	},
	{
		"_id": "USA",
		"tweet_count": 22
	},
	{
		"_id": "UK",
		"tweet_count": 22
	},
	{
		"_id": "Los Angeles, CA",
		"tweet_count": 20
	}
]
```


4. To fetch the data for Query - 2, pass the parameters startdate and enddate. http://127.0.0.1:8086/api/query2?startdate=2022-05-20&&enddate=2022-06-20

   Output => It will present all the locations along with no. of tweets made between May 20, 2022 to June 20, 2022 on a daily basis in the descending order of the no. of tweets

Structure of the document =>

```
[
	{
		"_id": {	"oid": "62a74142c093ffc891956523"
		},
		"date": "2022-06-09T05:30:00.000+05:30",
		"location": "India",
		"tweet_count": 13
	},
	{
		"_id": {	"oid": "62a74142c093ffc8919566df"
		},
		"date": "2022-06-10T05:30:00.000+05:30",
		"location": "United States",
		"tweet_count": 11
	},
	{
		"_id": {	"oid": "62a74142c093ffc8919561a3"
		},
		"date": "2022-06-07T05:30:00.000+05:30",
		"location": "Canada",
		"tweet_count": 10
	},
	{
		"_id": {	"oid": "62a74142c093ffc891956524"
		},
		"date": "2022-06-09T05:30:00.000+05:30",
		"location": "Ghaziabad, India",
		"tweet_count": 9
	},
	{
		"_id": {	"oid": "62a74142c093ffc891956361"
		},
			"date": "2022-06-08T05:30:00.000+05:30",
			"location": "India",
			"tweet_count": 9
	}
]
```


5. To fetch the data for Query - 3, pass the parameters startdate and enddate.
   http://127.0.0.1:8086/api/query3?startdate=2022-05-20&&enddate=2022-06-20

   Output => It will present the top 100 words along with their frequency occurring in tweets from May 20, 2022 to June 20, 2022 in the descending order of the frequency

Structure of the document =>


```
[
```

```
{
	"_id": "in",
	"frequency": 735
},
{
	"_id": "for",
	"frequency": 421
},
{
	"_id": "on",
	"frequency": 297
},
{
	"_id": "de",
	"frequency": 297
},
{
	"_id": "China",
	"frequency": 266
},
{
	"_id": "that",
	"frequency": 257
},
{
	"_id": "have",
	"frequency": 224
},
{
	"_id": "Covid",
	"frequency": 216
},
{
	"_id": "this",
	"frequency": 212
},
{
	"_id": "you",
	"frequency": 206
},
{
	"_id": "with",
	"frequency": 199
},
{
	"_id": "The",
	"frequency": 190
},
{
```

```
        "_id": "was",
        "frequency": 178
    },
    {
        "_id": "COVID",
        "frequency": 170
    }
]
```


6. To fetch the data for Query - 4, pass the parameters startdate and enddate. http://127.0.0.1:8086/api/query4?startdate=2022-05-20&&enddate=2022-06-20

   Output => It will present the top 100 words along with their frequency and the location from where they have been tweeted in the decreasing order of the frequency

Structure of the document =>


```
[
    {
        "_id": {    "location": "France",    "word": "de"
        },
        "total": 11
    },
    {
         "_id": {   "location": "Ghaziabad, India",      "word": "pradesh"
         },
        "total": 9
    },
    {
        "_id": {    "location": "Ghaziabad, India",      "word": "company"
        },
        "total": 9
    },
    {
        "_id": {    "location": "Ghaziabad, India",      "word": "sir"
        },
        "total": 9
    },
    {
        "_id": {    "location": "Ghaziabad, India",      "word": "job"
        },
        "total": 9
    },
    {
        "_id": {    "location": "Ghaziabad, India",      "word": "from"
        },
        "total": 9
```

```
        }
]
```


7. To fetch the data for Query - 5, pass the parameters startdate and enddate. http://127.0.0.1:8086/api/query5?startdate=2020-04-20&&enddate=2022-06-20

   Output => It will present all the tweets made by WHO containing the word prevention/preventive/precautionary/precaution between April 20, 2020 to June 20, 2022

Structure of the document =>


```
[
        {
                "_id": {    "oid": "629f7b788b4d1505350f30b1"    },
                "created_at": "2022-03-30T21:01:11.000+05:30",
                "entities_hashtags":
          "[{\"text\":\"COVID19\",\"indices\":[260,268]},{\"text\":\"ACTogether\",
          \"indices\":[269,280]}]",
                "full_text": "@DrTedros \"We have all the tools we need to bring
          this pandemic under control: we can prevent transmission with masks,
          distancing, hand hygiene and ventilation; And we can save lives by
          ensuring everyone has access to tests, treatments and
          vaccines\"-@DrTedros #COVID19 #ACTogether",
                "id": "1509191514173358081",
                "lang": "en",
                "truncated": "false",
                "user_location": "Geneva, Switzerland",
                "user_name": "World Health Organization (WHO)",
                "user_screen_name": "WHO"
        },
        {
                "_id": {    "oid": "629f7b788b4d1505350f30ca"    },
                "created_at": "2022-03-29T13:33:11.000+05:30",
                "entities_hashtags":
          "[{\"text\":\"COVID19\",\"indices\":[60,68]}]",
                "full_text": "RT @WHOWPRO: While there is some waning immunity over
          time, #COVID19 vaccines remain incredibly effective to prevent severe
          disease and dea…",
                "id": "1508716385425313795",
                "lang": "en",
                "truncated": "false",
                "user_location": "Geneva, Switzerland",
                "user_name": "World Health Organization (WHO)",
                "user_screen_name": "WHO"
        },
        {
                "_id": {    "oid": "629f7b788b4d1505350f30cd"    },
```

```
        "created_at": "2022-03-28T20:45:26.000+05:30",
        "entities_hashtags": "[]",
        "full_text": "RT @WHOUkraine: \"This war prevents patients from
      getting their treatment.\n\nIf they survive the shelling &amp;amp; the
      shooting, they perhaps would…",
        "id": "1508462775890325506",
        "lang": "en",
        "truncated": "false",
        "user_location": "Geneva, Switzerland",
        "user_name": "World Health Organization (WHO)",
        "user_screen_name": "WHO"
    },
    {
        "_id": {    "oid": "629f7b788b4d1505350f30e8"    },
        "created_at": "2022-03-25T22:05:32.000+05:30",
        "entities_hashtags": "[]",
        "full_text": "The term traditional medicine describes the
      knowledge, skills &amp;amp; practices indigenous &amp;amp; different cultures
      have used over time to maintain health and prevent, diagnose &amp;amp; treat
      physical and mental illness - from acupuncture, ayurvedic medicine,
      herbal mixtures to modern medicines. https://t.co/HWkavSIAsn",
        "id": "1507395771095830531",
        "lang": "en",
        "truncated": "false",
        "user_location": "Geneva, Switzerland",
        "user_name": "World Health Organization (WHO)",
        "user_screen_name": "WHO"
    }
]
```


8. To fetch the data for Query - 5, pass the parameter limit
   http://127.0.0.1:8086/api/query5?limit=2

   Output => It will present 2 no. of tweets from WHO containing the word prevention/preventive/precautionary/precaution in all time

Structure of the document =>


```
[
    {
        "_id": {    "oid": "629f7b788b4d1505350f30b1"    },
        "created_at": "2022-03-30T21:01:11.000+05:30",
        "entities_hashtags":
      "[{\"text\":\"COVID19\",\"indices\":[260,268]},{\"text\":\"ACTogether\",
      \"indices\":[269,280]}]",
        "full_text": "@DrTedros \"We have all the tools we need to bring
      this pandemic under control: we can prevent transmission with masks,
      distancing, hand hygiene and ventilation; And we can save lives by
```

```
        ensuring everyone has access to tests, treatments and
        vaccines\"-@DrTedros #COVID19 #ACTogether",
            "id": "1509191514173358081",
            "lang": "en",
            "truncated": "false",
            "user_location": "Geneva, Switzerland",
            "user_name": "World Health Organization (WHO)",
            "user_screen_name": "WHO"
    },
    {
            "_id": {    "oid": "629f7b788b4d1505350f30ca"    },
            "created_at": "2022-03-29T13:33:11.000+05:30",
            "entities_hashtags":
        "[{\"text\":\"COVID19\",\"indices\":[60,68]}]",
            "full_text": "RT @WHOWPRO: While there is some waning immunity over
        time, #COVID19 vaccines remain incredibly effective to prevent severe
        disease and dea…",
            "id": "1508716385425313795",
            "lang": "en",
            "truncated": "false",
            "user_location": "Geneva, Switzerland",
            "user_name": "World Health Organization (WHO)",
            "user_screen_name": "WHO"
    }
]
```


9. To fetch the data for Query - 6, pass the parameters startdate and enddate
   http://127.0.0.1:8086/api/query6?startdate=2019-01-01&&enddate=2022-01-01

   Output => It will present the country along with the donation made by them between Jan 1, 2019 to Jan 1, 2022

Structure of the document =>


```
[
    {
            "Count": 7,
            "Total": 1769901031,
            "_id": "European Commission"
    },
    {
            "Count": 8,
            "Total": 1597639322,
            "_id": "Germany"
    },
    {
            "Count": 7,
            "Total": 1181682803,
            "_id": "United Kingdom"
```

```
        },
        {
                "Count": 11,
                "Total": 525682217,
                "_id": "Canada"
        }
]
```


10. To fetch the data for Query - 6, pass the parameters sort and limit
    http://127.0.0.1:8086/api/query6?sort=count&&limit=5

    Output => It will present the top 5 countries with the no. of times they donated in the decreasing order of the no. of times donated.
    sort can take one more parameter total

Structure of the document =>


```
[
        {
                "Count": 24,
                "Total": 3448467429,
                "_id": "Germany"
        },
        {
                "Count": 23,
                "Total": 1311450351,
                "_id": "Canada"
        },
        {
                "Count": 17,
                "Total": 716424353,
                "_id": "Norway"
        },
        {
                "Count": 14,
                "Total": 1884145209,
                "_id": "Japan"
        },
        {
                "Count": 13,
                "Total": 414520653,
                "_id": "Switzerland"
        }
]
```


11. To fetch the data for Query - 7, pass the parameters startdate and enddate
    http://127.0.0.1:8086/api/query7?startdate=2021-01-01&&enddate=2022-07-07

Output => It will present all the countries along with the no. of confirmed cases between Jan 1, 2021 to July 7, 2022 in the descending order of the no. of confirmed cases

Structure of the document =>


```
[
	{
		"RankOfImpactedCountry": 1,
		"confirmedCases": 43197522,
		"location": "India"
	},
	{
		"RankOfImpactedCountry": 2,
		"confirmedCases": 3905978,
		"location": "Canada"
	},
	{
		"RankOfImpactedCountry": 3,
		"confirmedCases": 2101560,
		"location": "China"
	},
	{
		"RankOfImpactedCountry": 4,
		"confirmedCases": 18094054,
		"location": "Russia"
	},
	{
		"RankOfImpactedCountry": 5,
		"confirmedCases": 979223,
		"location": "Nepal"
	},
	{
		"RankOfImpactedCountry": 6,
		"confirmedCases": 26660652,
		"location": "Germany"
	}
]
```


12. To fetch the data for Query - 7, pass the parameter country
    http://127.0.0.1:8086/api/query7?country=india

    Output => It will present the complete data for that particular country

Structure of the document =>


```
[
	{
		"Code": "IND",
```

```
            "Confirmed cases": 43197522,
            "Country": "India",
            "Deaths": 524723,
            "Last Updated": "2022-06-09T09:50:54.000+05:30",
            "_id": {    "oid": "62a1ad33188951e3b3f2be5c"    }
      }
]
```


13. To fetch the data for Query - 8, pass the parameters startdate and enddate http://127.0.0.1:8086/api/query8?startdate=2010-01-01&&enddate=2020-01-01

    Output => It will present the data for the top 10 countries with their respective aggregated GDP value between Jan 1, 2010 to Jan 1, 2020 in the descending order of their aggregated GDP value

Structure of the document =>


```
[
      {
            "_id": "United States",
            "total": 179615095141000
      },
      {
            "_id": "European Union",
            "total": 149682457640012.5
      },
      {
            "_id": "China",
            "total": 104996977146280.6
      },
      {
            "_id": "Euro area",
            "total": 77130051916100
      },
      {
            "_id": "Japan",
            "total": 52939023861773.32
      },
      {
            "_id": "Germany",
            "total": 36653911540061.69
      },
      {
            "_id": "United Kingdom",
            "total": 27933524724600.45
      },
      {
            "_id": "France",
            "total": 26867785061365.28
```

```
        },
        {
                "_id": "India",
                "total": 21843627310390.27
        },
        {
                "_id": "Brazil",
                "total": 21675241782018.65
        }
]
```


14. To fetch the data for Query - 8, pass the parameter country
    http://127.0.0.1:8086/api/query8?country=india

    Output => It will present all the data for that particular country

Structure of the document =>


```
[
        {
                "Code": "IN",
                "Country": "India",
                "Date": "1960-01-01T05:30:00.000+05:30",
                "GDP": 37029883875.4573,
                "_id": {    "oid": "62a3072d5c5abb7917534375"    }
        },
        {
                "Code": "IN",
                "Country": "India",
                "Date": "1961-01-01T05:30:00.000+05:30",
                "GDP": 39232435784.0946,
                "_id": {    "oid": "62a3072d5c5abb7917534376"    }
        },
        {
                "Code": "IN",
                "Country": "India",
                "Date": "1962-01-01T05:30:00.000+05:30",
                "GDP": 42161481858.7014,
                "_id": {    "oid": "62a3072d5c5abb7917534377"    }
        },
        {
                "Code": "IN",
                "Country": "India",
                "Date": "1963-01-01T05:30:00.000+05:30",
                "GDP": 48421923458.7413,
                "_id": {    "oid": "62a3072d5c5abb7917534378"    }
        }
]
```