

IoT Assignment Report on

Live Covid19 Tracker webpage using Django

By

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Submitted to

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Acknowledgement

Working on Django development environment for the first time was very interesting. During the duration of this project I learned a lot about Django and the features it provides.

Having developed on technologies like Vue.js, node.js, Asp.net working on Django was great and I was really impressed by the inbuilt modules and facilities it provides for the developer which makes development very easy and swift in Django.

I express my gratitude to Dr. Anubha Parashar to give this project to me due to which I could learn so much about this platform.

I also acknowledge with a deep sense of reverence, my gratitude towards my parents and members of my family, who has always supported me morally as well as economically during this hard phase of Covid19.

Aman Gupta

Introduction

The COVID-19 pandemic is considered as the most crucial global health calamity of the century and the greatest challenge that the humankind faced since the 2nd World War. In December 2019, a new infectious respiratory disease emerged in Wuhan, Hubei province, China and was named by the World Health Organization as COVID-19 (coronavirus disease 2019). A new class of corona virus, known as SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) has been found to be responsible for occurrence of this disease. As far as the history of human civilization is concerned there are instances of severe outbreaks of diseases caused by several viruses.

Till now there is no report of any clinically approved antiviral drugs or vaccines that are effective against COVID-19. It has rapidly spread around the world, posing enormous health, economic, environmental, and social challenges to the entire human population.

This motive of this project is to spread the correct information and statistics of the people affected by this deadly virus all around the world and make them aware.

Procedure

- First we have to set up the environment and install Django in the environment
- Then we start the project with the command:

```
$ django-admin startproject mysite
```

- To run the app on the development server we use the command:

```
$ python manage.py runserver
```

- To route the pages of our application we have to create the urls.py file and place our routes in the file and then include the file to the parent urls.py file

```
#dashboard/urls.py
from django.urls import path
from . import views

urlpatterns = [
    path('', views.home, name='dashboard-home'),
    path('getstats', views.getstats, name="getstats"),
    path('home', views.home, name="home")
]
```

```
#covid19app/urls.py
from django.contrib import admin
from django.urls import path, include
from dashboard import views as dashboard_views

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('dashboard.urls')),
]
```

- Then we create the dashboard.html page by creating a directory dashboard/templates/dashboard as per Django convention

- All the static files have to be placed in the dashboard/static/dashboard directory as per Django convention
- All the backend processing occurs in the dashboard/views.py file

```

from django.shortcuts import render
from django.views.generic import TemplateView
import requests
from django.contrib import messages
from django.http import Http404
from django.http import HttpResponse
def getstats(request):
    url = "https://covid-193.p.rapidapi.com/statistics" #apiwebsite
    count = request.GET['country'] # selected country

    querystring = {"country":count}
    headers = {
        'x-rapidapi-host': "covid-193.p.rapidapi.com",
        'x-rapidapi-key': "b1bf9d0c40mshdaf9e4c83043868p15144bj5n0440754bb25b"
    }

    response = requests.request("GET", url, headers=headers, params=querystring).json() #received information is converted into json format

    data = response['response']

    d = data[0]

    print(d)

    context = {
        'country': count,
        'all': d['cases']['total'],
        'recovered': d['cases']['recovered'],
        'deaths': d['deaths']['total'],
        'new': d['cases']['new'],
        'critical': d['cases']['critical']
    }

    return render(request, 'dashboard/result.html',context) #all the information is passed to the frontend html page

```

- <https://rapidapi.com/api-sports/api/covid-193> this API was used to extract information about the stats of Covid19

The screenshot shows the RapidAPI interface for the COVID-19 API. The top navigation bar includes the RapidAPI logo, a search bar, and links to Categories, Organization, API Marketplace, My Apps, Add Your API, and Docs. The main header displays the API name 'COVID-19' with a 'FREE' badge and a 'Verified' checkmark. It also shows the provider 'By api-sports', the update status 'Updated 2 months ago', and the category 'Health, Fitness'. On the right, statistics are shown: Popularity 9.9/10, Latency 108ms, and Success Rate 100%.

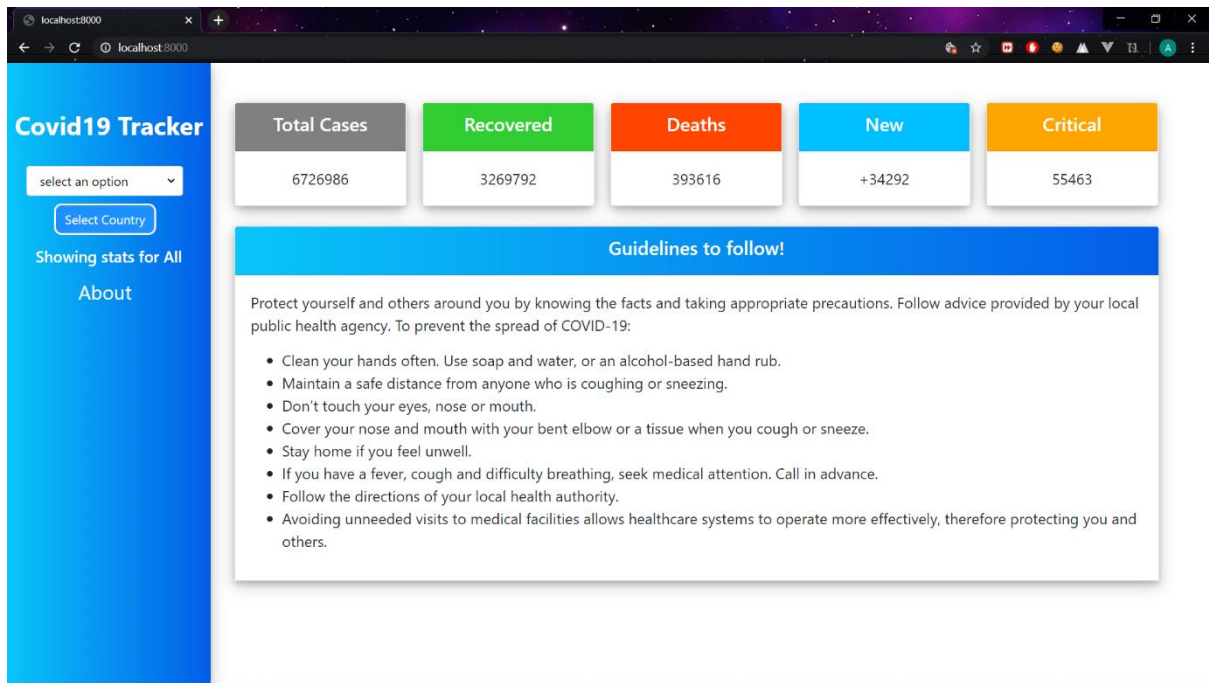
The 'Endpoints' tab is selected, showing a list of endpoints on the left: GET Statistics, GET Countries, and GET History. The 'GET Statistics' endpoint is expanded, showing its description 'Get all current statistics for all countries'. Below the description, there are fields for 'Personal Account' (Aman Gupta), 'RapidAPI App' (default-application_4474972), and 'Header Parameters'. The 'Header Parameters' section includes 'X-RapidAPI-Host' (covid-193.p.rapidapi.com) and 'X-RapidAPI-Key' (81745e41d2mshe7acbd99e57b84cp181315jsnl), both marked as 'REQUIRED'. There is also an 'Optional Parameters' section with a 'country' field.

On the right side, the 'Import requests' section shows a code snippet for making a GET request to the API. Below this, the 'Example Responses' section shows a sample response with a status of 200. The response body is displayed under the 'Body' tab, showing a JSON object with 'errors' and 'statistics' fields.

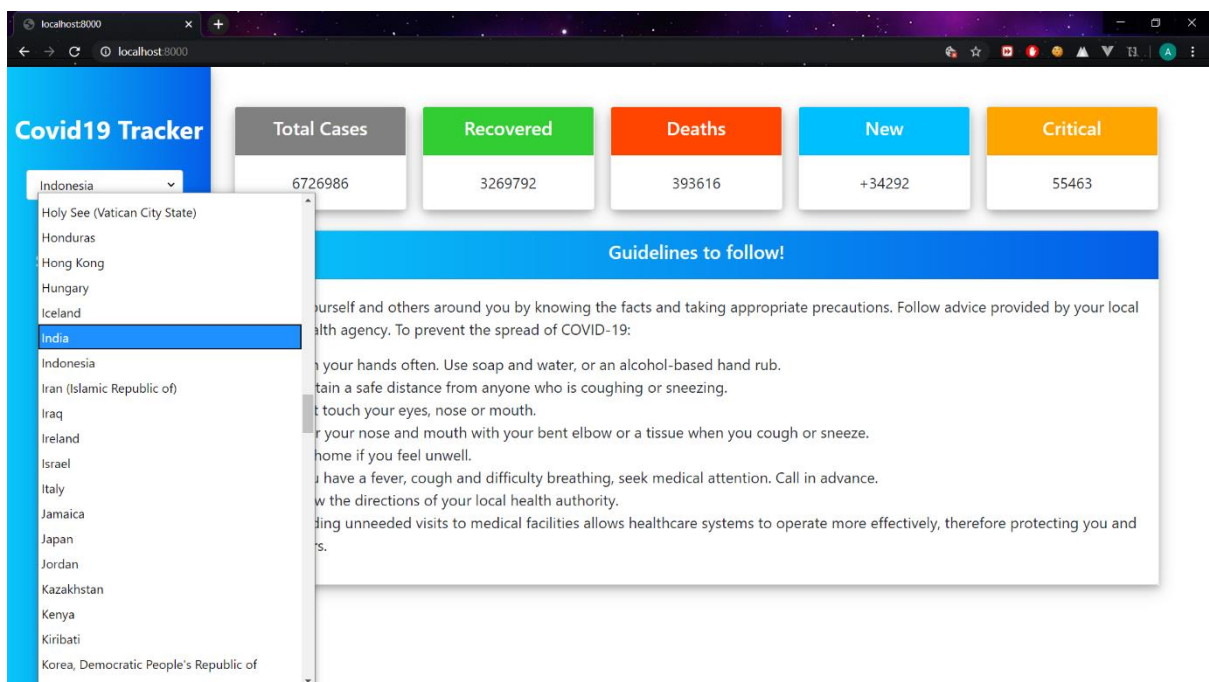
- Please find the attached file to view the entire code

OUTPUT

- Default page of the dashboard displays the total statistics i.e. all over the world and some community guidelines



- We can select a specific country from the select dropdown option



- After clicking the “select country” the page routes to getstats method and displays the stats for that country and the indicator below tells “select country” stats of which country is currently displayed

The screenshot shows a web browser at localhost:8000/getstats/country=India. The application has a blue sidebar with the title 'Covid19 Tracker', a dropdown menu set to 'select an option', a 'Select Country' button, and links for 'Showing stats for India' and 'About'. The main content area features five colored boxes for statistics: Total Cases (227273), Recovered (109462), Deaths (6367), New (+560), and Critical (8944). Below these is a 'Guidelines to follow!' section with a list of COVID-19 prevention tips.

Total Cases	Recovered	Deaths	New	Critical
227273	109462	6367	+560	8944

Guidelines to follow!

Protect yourself and others around you by knowing the facts and taking appropriate precautions. Follow advice provided by your local public health agency. To prevent the spread of COVID-19:

- Clean your hands often. Use soap and water, or an alcohol-based hand rub.
- Maintain a safe distance from anyone who is coughing or sneezing.
- Don't touch your eyes, nose or mouth.
- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
- Stay home if you feel unwell.
- If you have a fever, cough and difficulty breathing, seek medical attention. Call in advance.
- Follow the directions of your local health authority.
- Avoiding unneeded visits to medical facilities allows healthcare systems to operate more effectively, therefore protecting you and others.

India (5 June)

The screenshot shows the same application but with the URL changed to localhost:8000/getstats/country=Greece. The sidebar now shows 'Showing stats for Greece'. The statistics boxes show: Total Cases (2952), Recovered (1374), Deaths (180), New (+15), and Critical (9). The guidelines section remains the same.

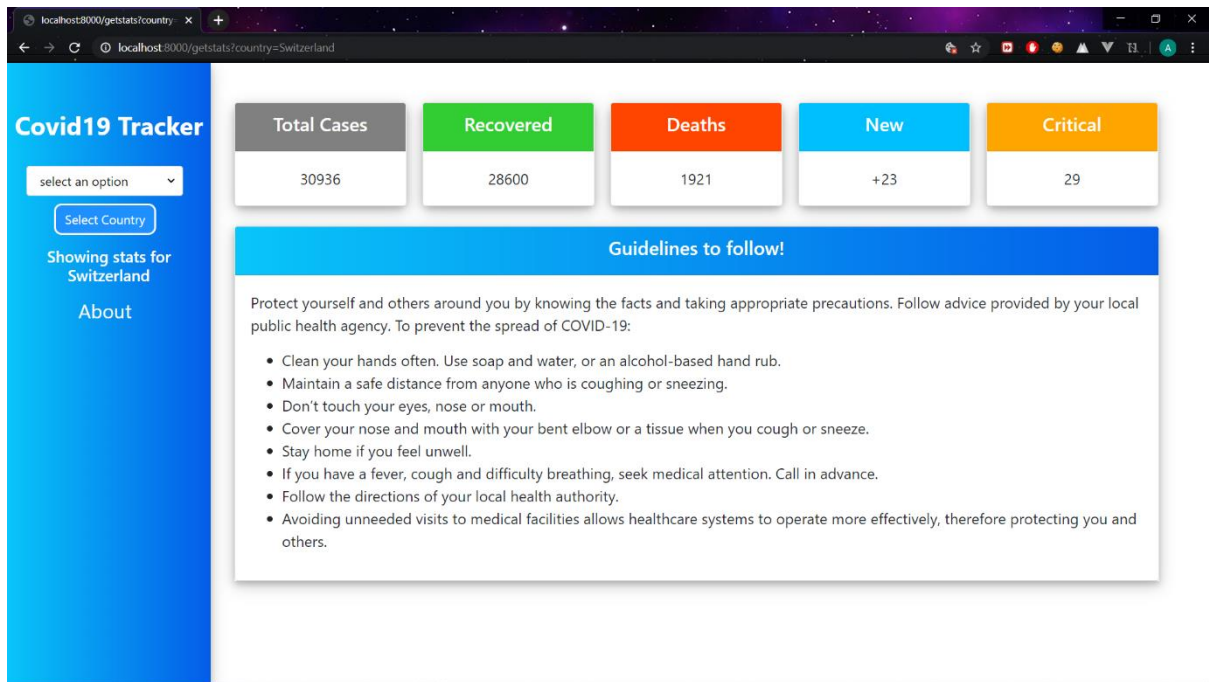
Total Cases	Recovered	Deaths	New	Critical
2952	1374	180	+15	9

Guidelines to follow!

Protect yourself and others around you by knowing the facts and taking appropriate precautions. Follow advice provided by your local public health agency. To prevent the spread of COVID-19:

- Clean your hands often. Use soap and water, or an alcohol-based hand rub.
- Maintain a safe distance from anyone who is coughing or sneezing.
- Don't touch your eyes, nose or mouth.
- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
- Stay home if you feel unwell.
- If you have a fever, cough and difficulty breathing, seek medical attention. Call in advance.
- Follow the directions of your local health authority.
- Avoiding unneeded visits to medical facilities allows healthcare systems to operate more effectively, therefore protecting you and others.

Greece (5 June)



Switzerland (5 June)

Reference

- <https://www.youtube.com/watch?v=XpInImIgebM>
- <https://docs.djangoproject.com/en/3.0/intro/tutorial01/>
- <https://www.sciencedirect.com/science/article/pii/S0048969720323998>