User Manual

Dependency / Package	Version / model
Python	3.9.11
Django	~=4.2.2
Django REST Framework	~=3.14.0
transformers[tf-cpu]	TensorFlow CPU version
Pre-trained model	nlptown/bert-base-multilingual-uncased-sentiment

Project Guideline:
1. Open the project folder "sentiment_analysis" with a suitable IDE such as PyCharm/ VS Code
2. Open a new terminal window
3. Create a virtual environment with the following command:
   # Windows OS
   > py -m venv venv

   # Unix/ Mac OS
   > python -m venv venv

4. Activate the virtual environment using the following command for Windows OS:
   # Windows OS
   > venv/Scripts/activate

   # Unix/ Mac OS
   > source venv/bin/activate

5. Then install the dependencies using the command:
   pip install -r requirements.txt
6. After the successful installation, run the following command to run the server:
   python manage.py runserver

Now the project is running on the localhost server.
You can now hit the url: http://localhost:8000/analyze in a browser to access the browsable API or test it through Postman in the following way:
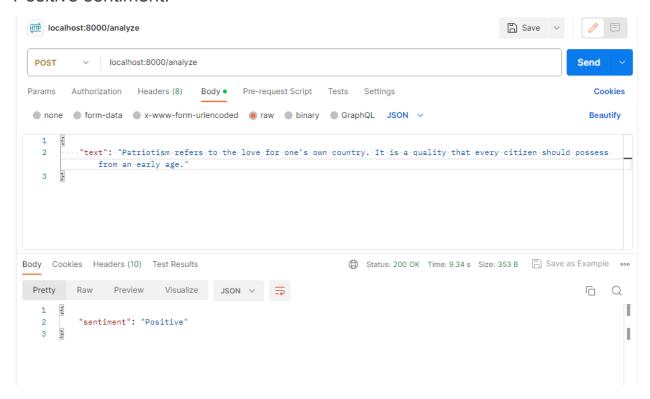
1. Send a POST request with request body in JSON format s follows:
   {
      "text": "Your text to be analyzed"
   }

2. Then wait for a while to get the response. The response will appear in the following format:
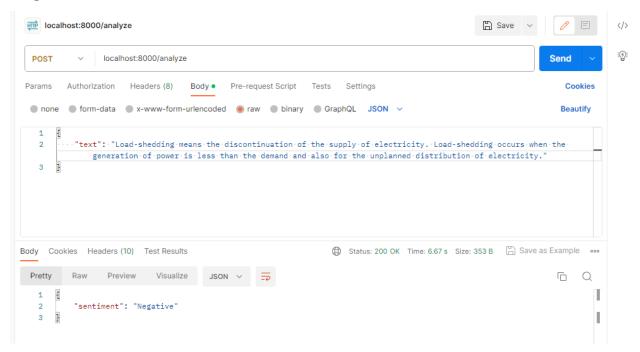   {
      "sentiment": "Positive / Negative / Neutral"
   }

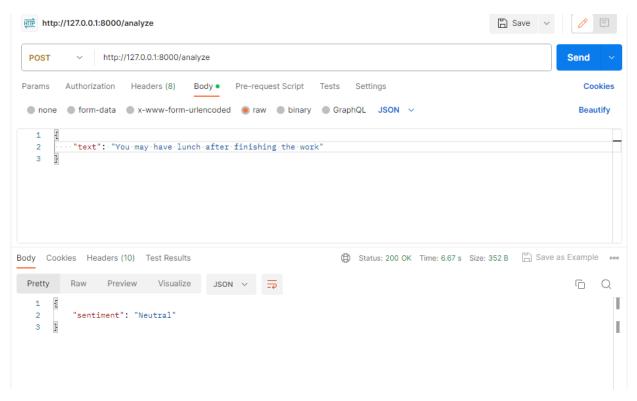Here some examples are given both from Postman and browsable API:

Positive sentiment:

Negative sentiment:


```
localhost:8000/analyze                                    Save

POST  ⌄   localhost:8000/analyze                          Send  ⌄

Params   Authorization   Headers (8)   Body ●   Pre-request Script   Tests   Settings                    Cookies

● none  ● form-data  ● x-www-form-urlencoded  ● raw  ● binary  ● GraphQL  JSON ⌄                         Beautify

1  {
2  ····"text": "Load-shedding means the discontinuation of the supply of electricity. Load-shedding occurs when the
           generation of power is less than the demand and also for the unplanned distribution of electricity."
3  }

Body   Cookies   Headers (10)   Test Results        ⊕  Status: 200 OK   Time: 6.67 s   Size: 353 B   Save as Example  ooo

Pretty  Raw  Preview  Visualize    JSON ⌄

1  {
2      "sentiment": "Negative"
3  }
```

Neutral sentiment:


```
http://127.0.0.1:8000/analyze                             Save

POST  ⌄   http://127.0.0.1:8000/analyze                   Send  ⌄

Params   Authorization   Headers (8)   Body ●   Pre-request Script   Tests   Settings                    Cookies

● none  ● form-data  ● x-www-form-urlencoded  ● raw  ● binary  ● GraphQL  JSON ⌄                         Beautify

1  {
2  ····"text": "You may have lunch after finishing the work"
3  }

Body   Cookies   Headers (10)   Test Results        ⊕  Status: 200 OK   Time: 6.67 s   Size: 352 B   Save as Example  ooo

Pretty  Raw  Preview  Visualize    JSON ⌄

1  {
2      "sentiment": "Neutral"
3  }
```
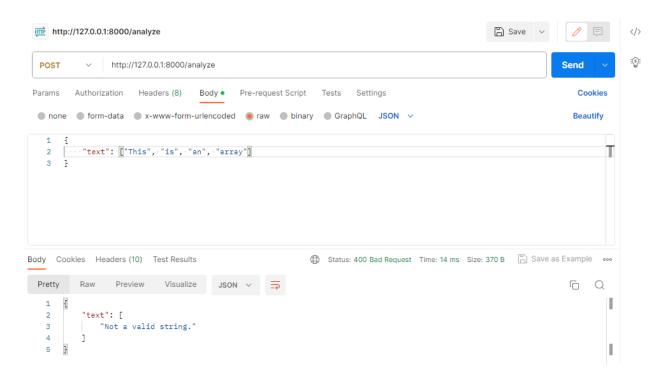
In my project, I have set a maximum limit of 500 characters for the input text. So the system gives an appropriate response if the text is above 500 characters.

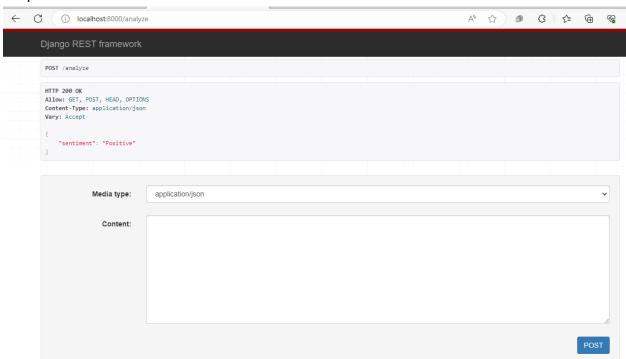It also provides a proper response if the input is not a valid text:

Here are some examples using the browsable API in web browser:

Request:

Media type:	application/json ⌄

Content:	{
	   "text": "Patriotism can be defined as one's immense devotion to his/her country. A country is from its citizens. The love for own country is the feeling of patriotism. A person who has a true feeling of love and devotion towards his country is called a patriot."
	}

POST

Response:

localhost:8000/analyze

Django REST framework

POST /analyze

```
HTTP 200 OK
Allow: GET, POST, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

{
    "sentiment": "Positive"
}
```

Media type:	application/json ⌄
Content:	

POST

Request:

Media type:	application/json

Content:
```
{
"text" : "Load-shedding means the discontinuation of the supply of electricity. Load-shedding occurs when the generation of power is less than
the demand and also for the unplanned distribution of electricity. It creates problems of far-reaching consequences in the socio-economic
development of a country. Houses, mills, factories, industries, shops, hospitals all fall a victim to it."
}
```

POST

Response:

Api

POST /analyze

```
HTTP 200 OK
Allow: GET, POST, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

{
    "sentiment": "Negative"
}
```