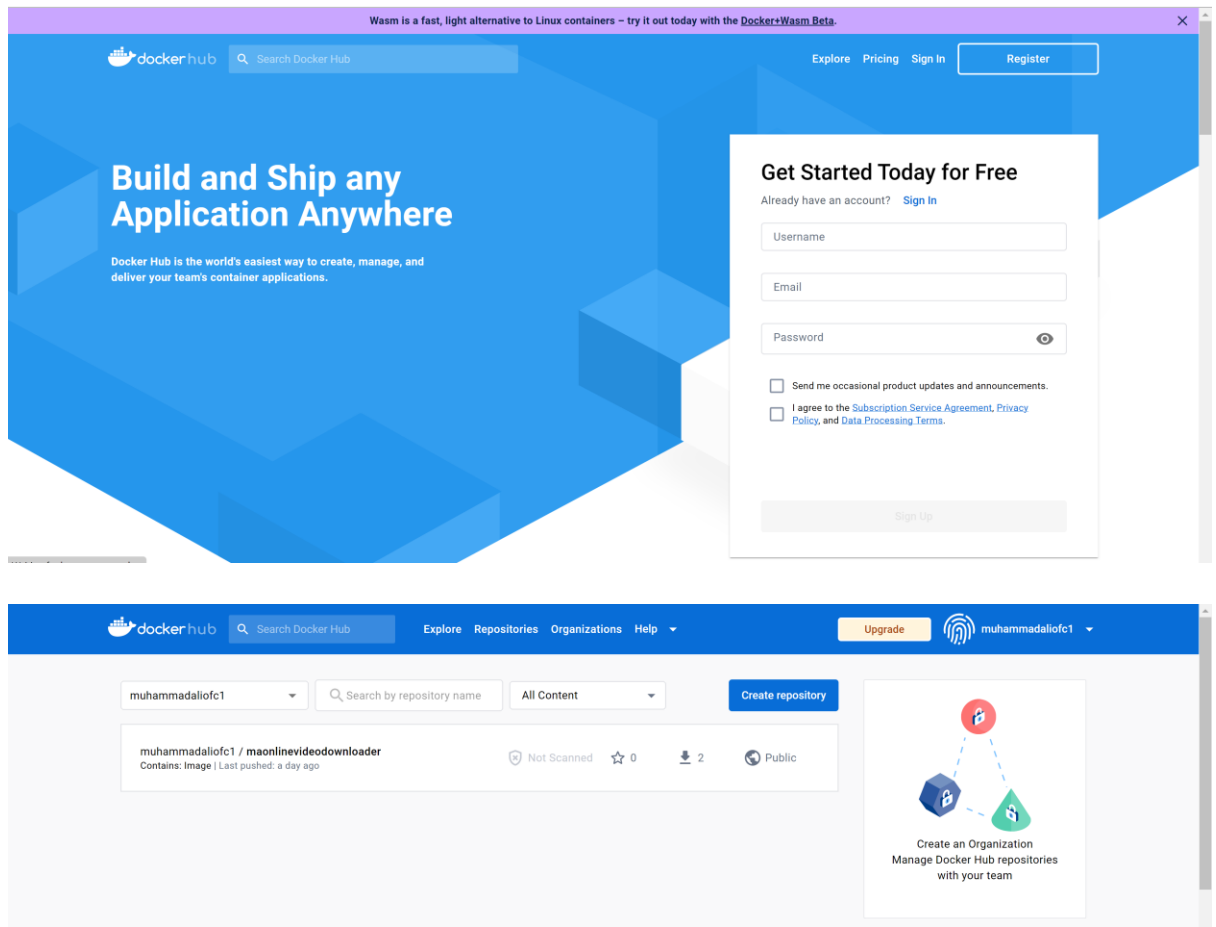


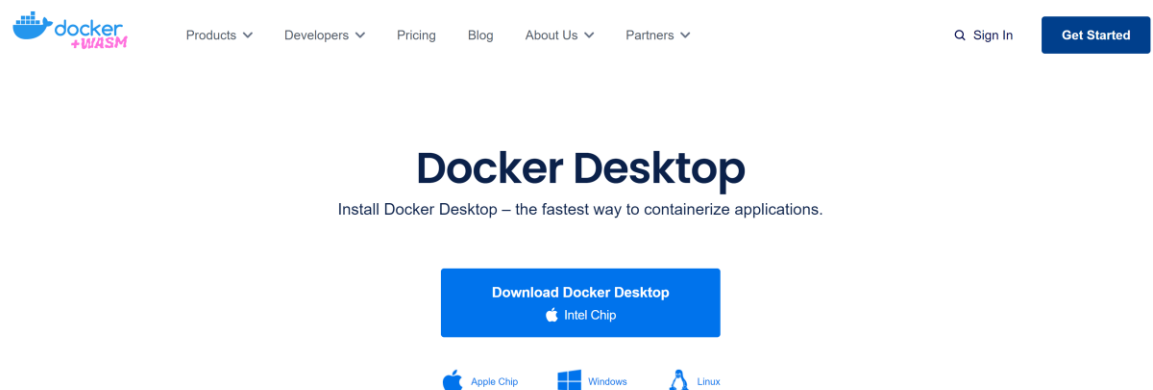
1. First, go to Docker Hub website and create your account (If not already created)

<https://hub.docker.com/>

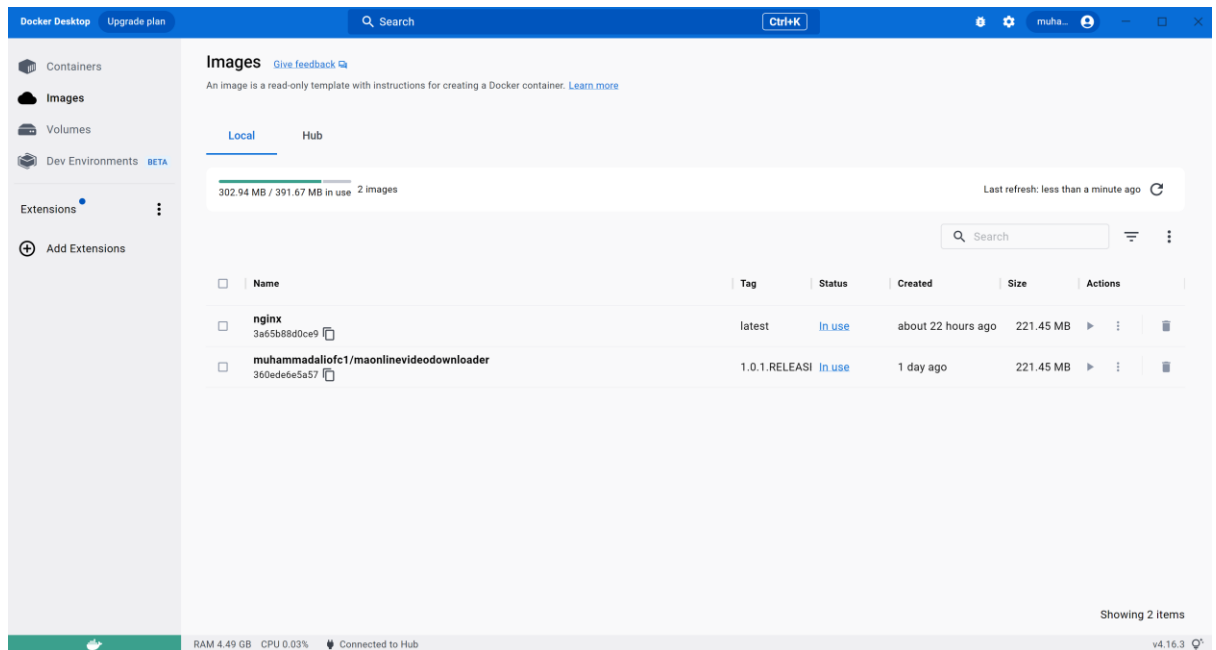


2. After creating account on Docker Hub, please download and install Docker Desktop software on your machine.

<https://www.docker.com/products/docker-desktop/>

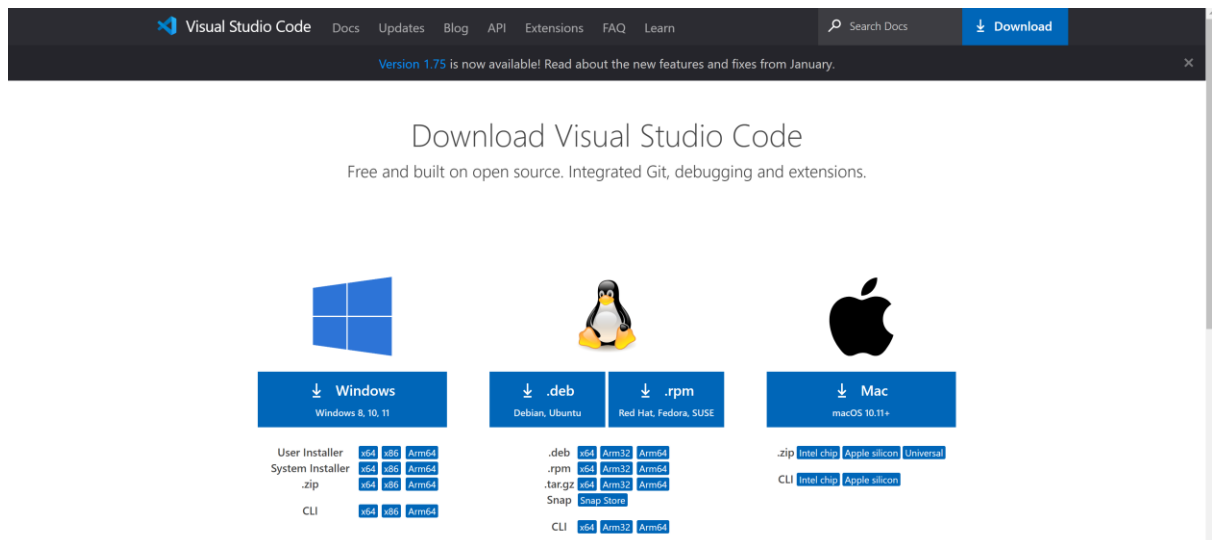


- After installing Docker Desktop software, please run it and login into Docker Desktop using your account credentials created on Docker Hub.
- After login into Docker Desktop, it will appear like this, and all your Docker Images will appear here.



- Download and Install Visual Studio Code (Windows Version) software from below URL.

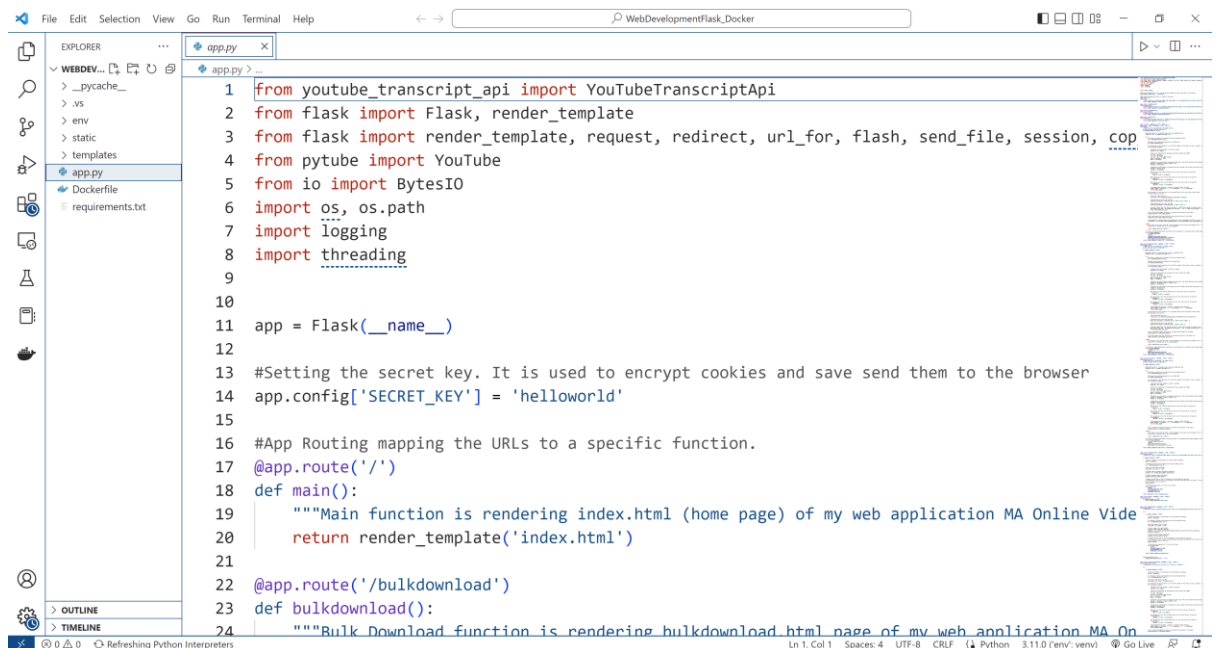
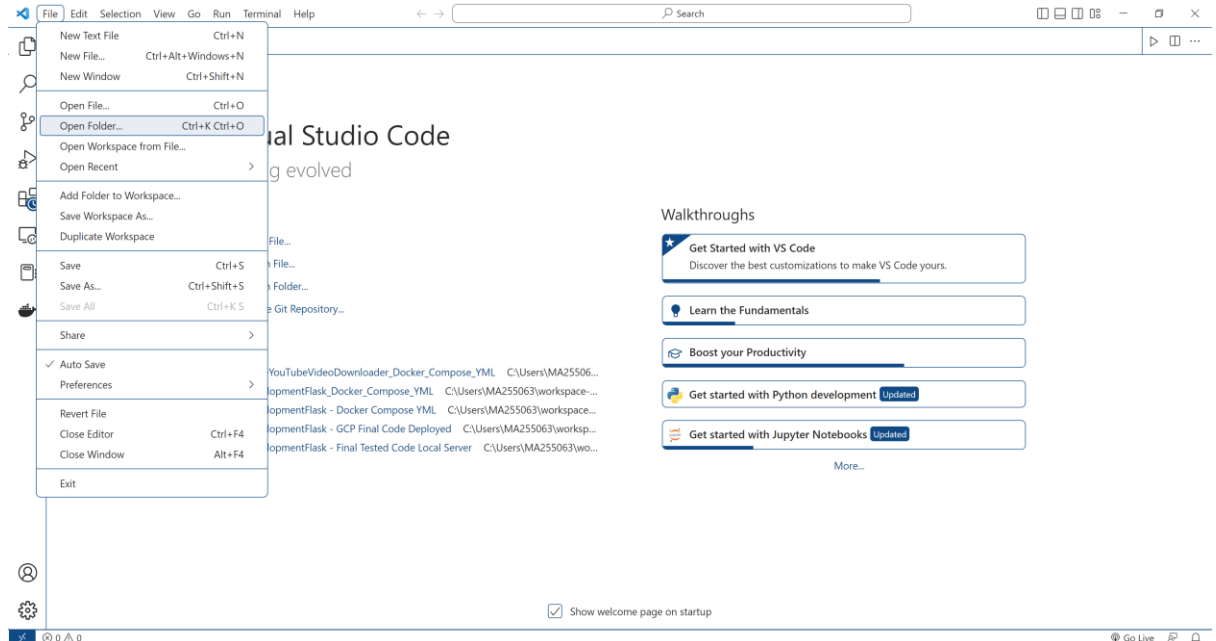
<https://code.visualstudio.com/download>



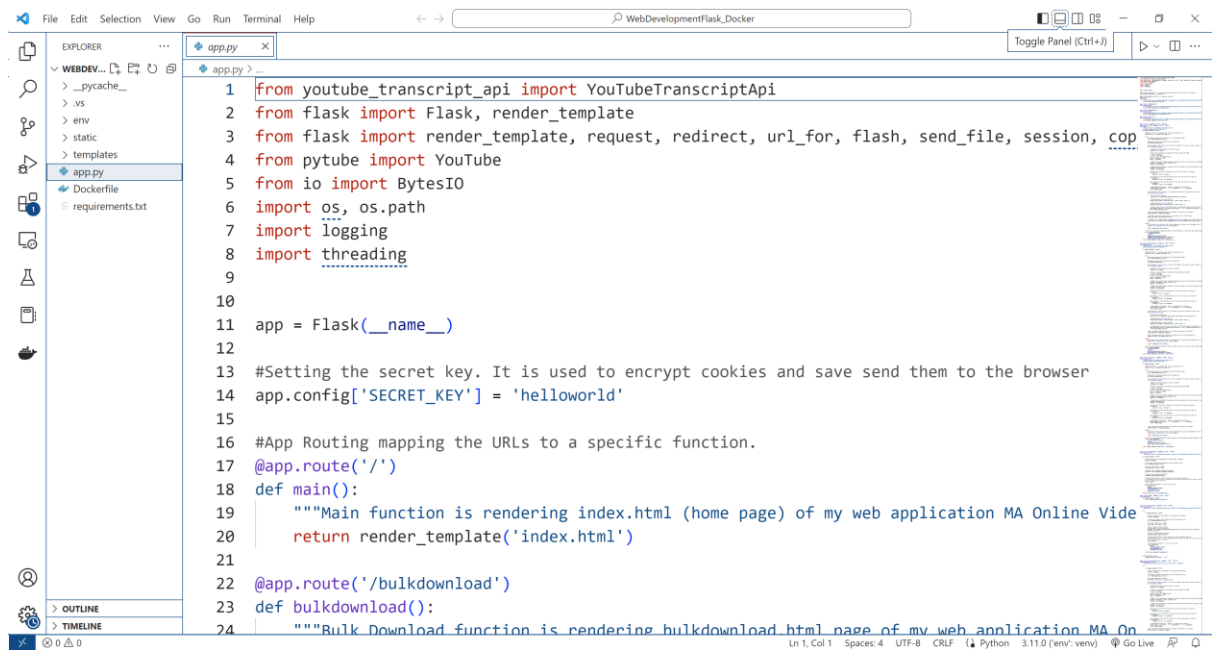
- Download **MAOnlineYouTubeVideoDownloader_Docker** folder from below GitHub repository and place it in VS Code workspace.

https://github.com/ma-muhammadali/pse_MAOnlineYouTubeVideoDownloader_Docker.git

- Open **MAOnlineYouTubeVideoDownloader_Docker** in VS Code



8. Click on Toggle Panel to display the Terminal.

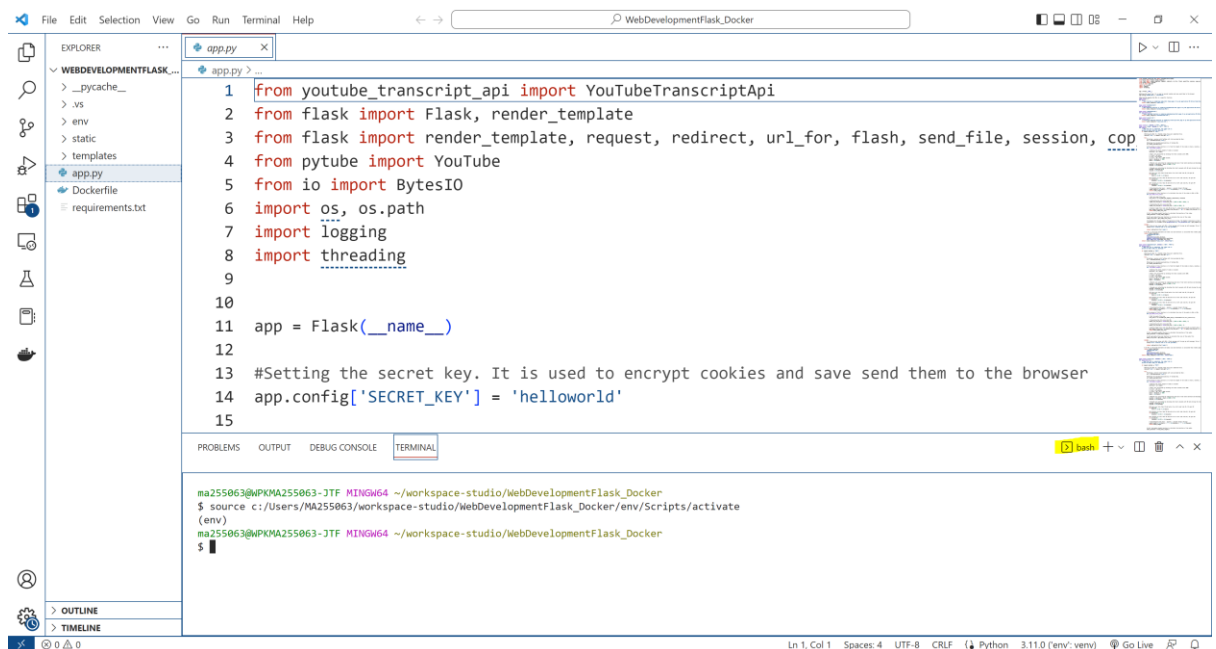


The screenshot shows the Visual Studio Code editor interface. The Explorer panel on the left shows the project structure with files like `__pycache__`, `.vs`, `env`, `static`, `templates`, `app.py`, `Dockerfile`, and `requirements.txt`. The main editor area displays the `app.py` file with the following Python code:

```
1 from youtube_transcript_api import YouTubeTranscriptApi
2 from flask import Flask, render_template
3 from flask import render_template, request, redirect, url_for, flash, send_file, session, cop
4 from pytube import YouTube
5 from io import BytesIO
6 import os, os.path
7 import logging
8 import threading
9
10
11 app = Flask(__name__)
12
13 #Setting the secret key. It is used to encrypt cookies and save send them to the browser
14 app.config['SECRET_KEY'] = 'helloworld'
15
16 #App Routing mapping the URLs to a specific function.
17 @app.route('/')
18 def main():
19     """Main function is rendering index.html (home page) of my web application MA Online Vide
20     return render_template('index.html')
21
22 @app.route('/bulkdownload')
23 def bulkdownload():
24     """Bulk Download function is rendering bulkdownload.html page of my web application MA On
```

At the top right of the editor, there is a "Toggle Panel (Ctrl+J)" button. The status bar at the bottom indicates the current file is `app.py` at line 1, column 1, with a UTF-8 encoding and CRLF line endings.

9. When Terminal opens, please make sure that it is set to **Bash** command.

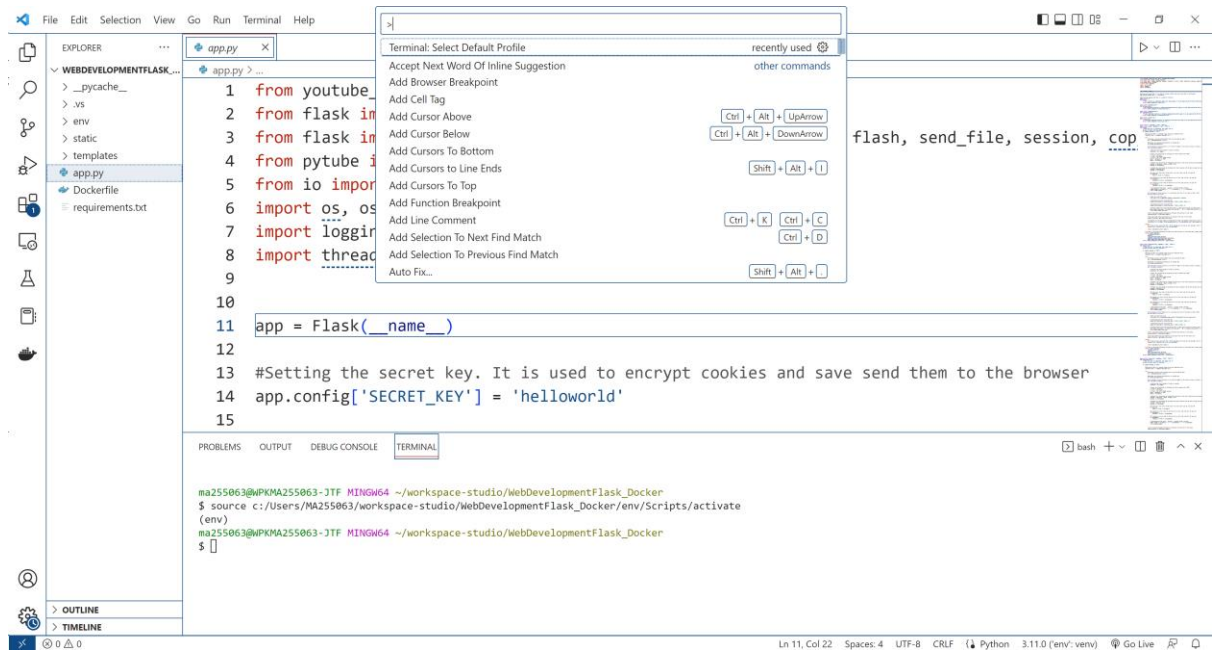


The screenshot shows the Visual Studio Code editor interface with the `app.py` file open. The terminal panel at the bottom is active and shows the following output:

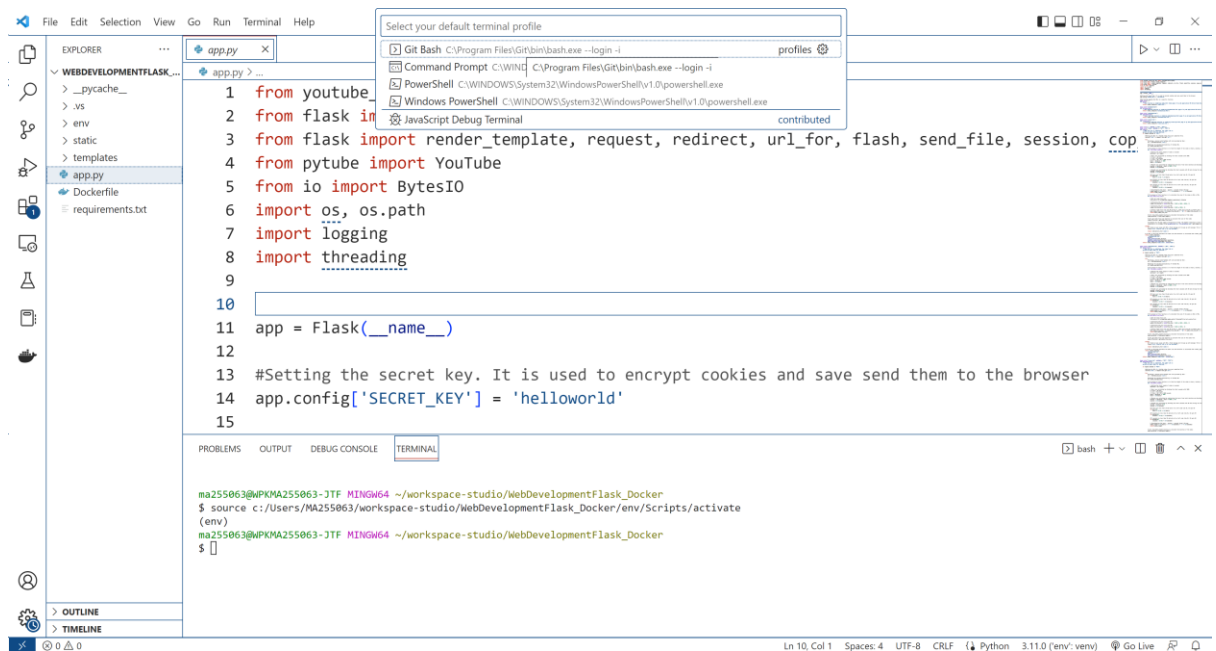
```
ma255063@MPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$ source c:/Users/MA255063/workspace-studio/WebDevelopmentFlask_Docker/env/Scripts/activate
(env)
ma255063@MPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$
```

The terminal output indicates that the environment is set to `Bash` command. The status bar at the bottom shows the current file is `app.py` at line 1, column 1, with a UTF-8 encoding and CRLF line endings.

10. If it is not set to Bash command, please press CTRL + SHIFT + P and click on Terminal: Select Default Profile.

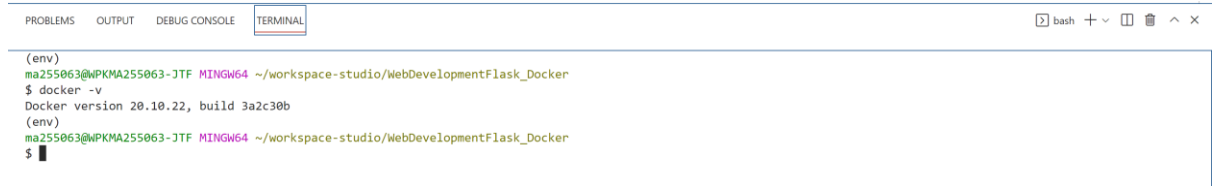


11. Choose Git Bash and Terminal will be set as Bash.



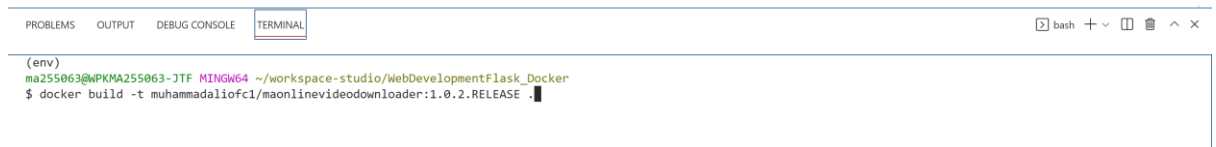
12. After selecting the Terminal as Bash, check the version of docker by running below command.

```
$ docker -v
```



```
(env)
ma255063@WPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$ docker -v
Docker version 20.10.22, build 3a2c30b
(env)
ma255063@WPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$
```

13. Now we will create Docker Image by running below command.



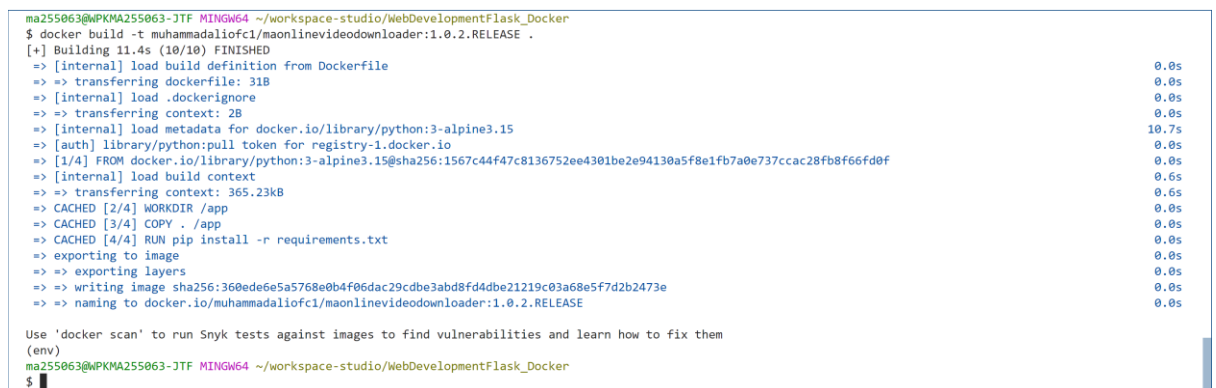
```
(env)
ma255063@WPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$ docker build -t muhammadaliofc1/maonlinevideodownloader:1.0.2.RELEASE .
```

```
docker build -t muhammadaliofc1/maonlinevideodownloader:1.0.2.RELEASE .
```

In this command, we will build a Docker image

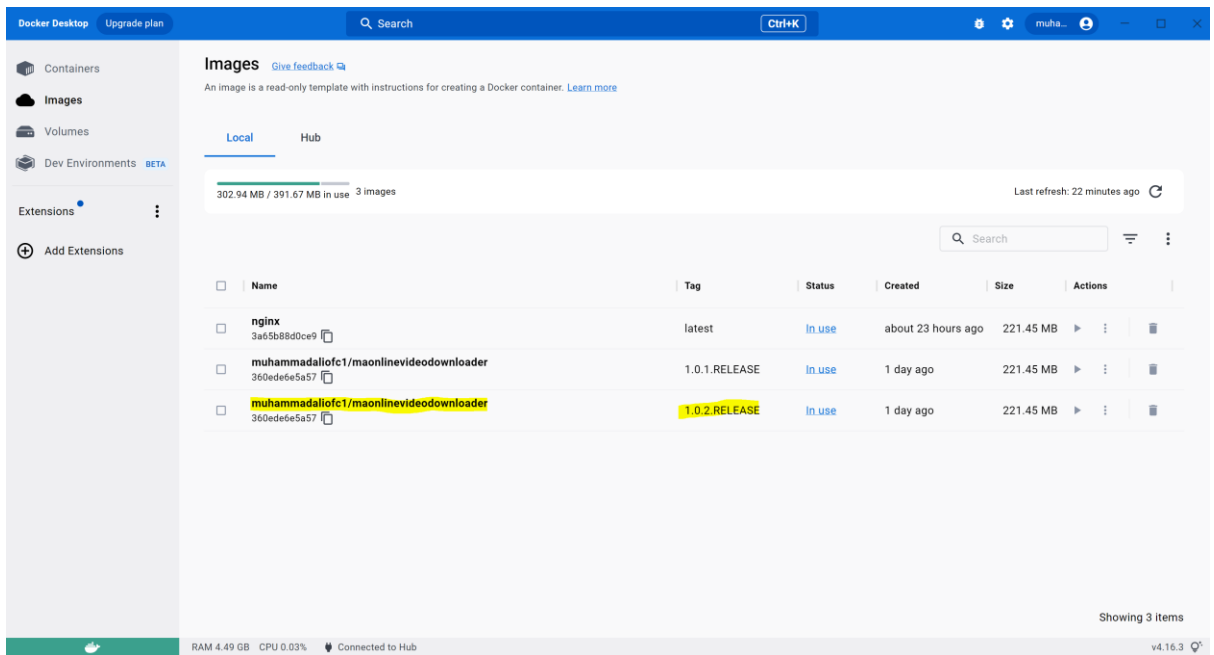
- **muhammadaliofc1/maonlinevideodownloader** is the name of the image
- **1.0.2.RELEASE** is the release number of this image

14. As you can see, Docker Image is created successfully and same is reflecting in Docker Desktop as well.



```
ma255063@WPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$ docker build -t muhammadaliofc1/maonlinevideodownloader:1.0.2.RELEASE .
[+] Building 11.4s (10/10) FINISHED
=> [internal] load build definition from Dockerfile                                0.0s
=> => transferring dockerfile: 31B                                                0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3-alpine3.15           10.7s
=> [auth] library/python:pull token for registry-1.docker.io                   0.0s
=> [1/4] FROM docker.io/library/python:3-alpine3.15@sha256:1567c44f47c8136752ee4301be2e94130a5f8e1fb7a0e737ccac28fb8f66fd0f  0.0s
=> [internal] load build context                                                 0.6s
=> => transferring context: 365.23kB                                              0.6s
=> CACHED [2/4] WORKDIR /app                                                    0.0s
=> CACHED [3/4] COPY . /app                                                      0.0s
=> CACHED [4/4] RUN pip install -r requirements.txt                             0.0s
=> exporting to image                                                            0.0s
=> => exporting layers                                                            0.0s
=> => writing image sha256:360ede6e5a5768e0b4f06dac29cdbe3abd8fd4dbe21219c03a68e5f7d2b2473e  0.0s
=> => naming to docker.io/muhammadaliofc1/maonlinevideodownloader:1.0.2.RELEASE  0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
(env)
ma255063@WPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$
```



15. There are two methods to run this image as container.

16. First method is to run below command and start the Container

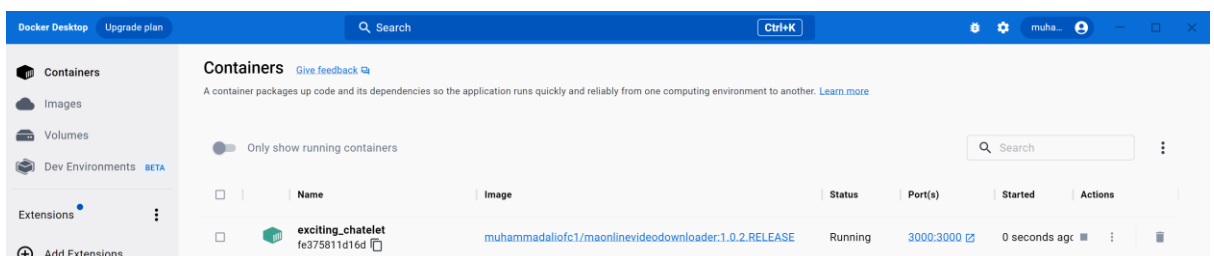
```

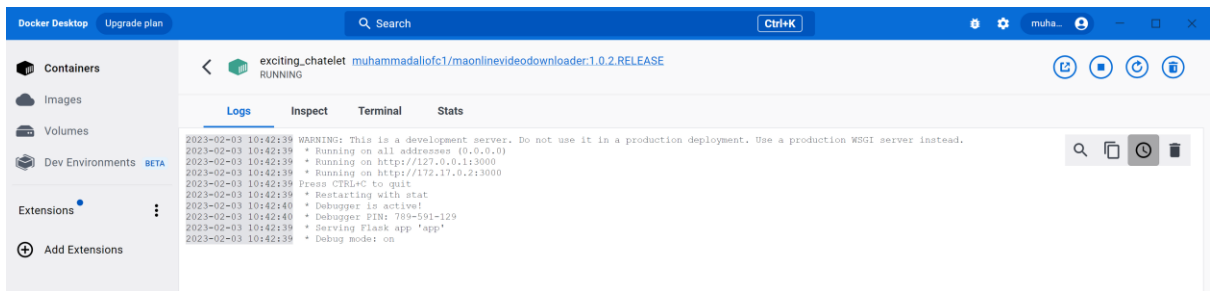
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
(env)
ma255063@MPKMA255063-JTF MINGW64 ~/workspace-studio/WebDevelopmentFlask_Docker
$ docker container run -d -p 3000:3000 muhammadalioc1/maonlinevideodownloader:1.0.2.RELEASE1

```

**\$ docker container run -d -p 3000:3000
muhammadalioc1/maonlinevideodownloader:1.0.2.RELEASE**

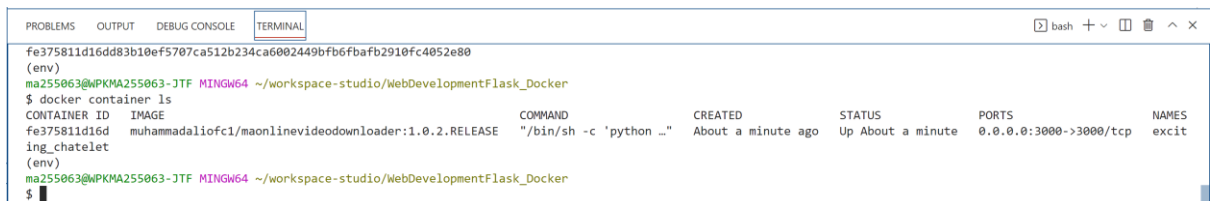
Here we are binding the host port with container port. Since we have exposed Port:3000 so we need to mention same in above command



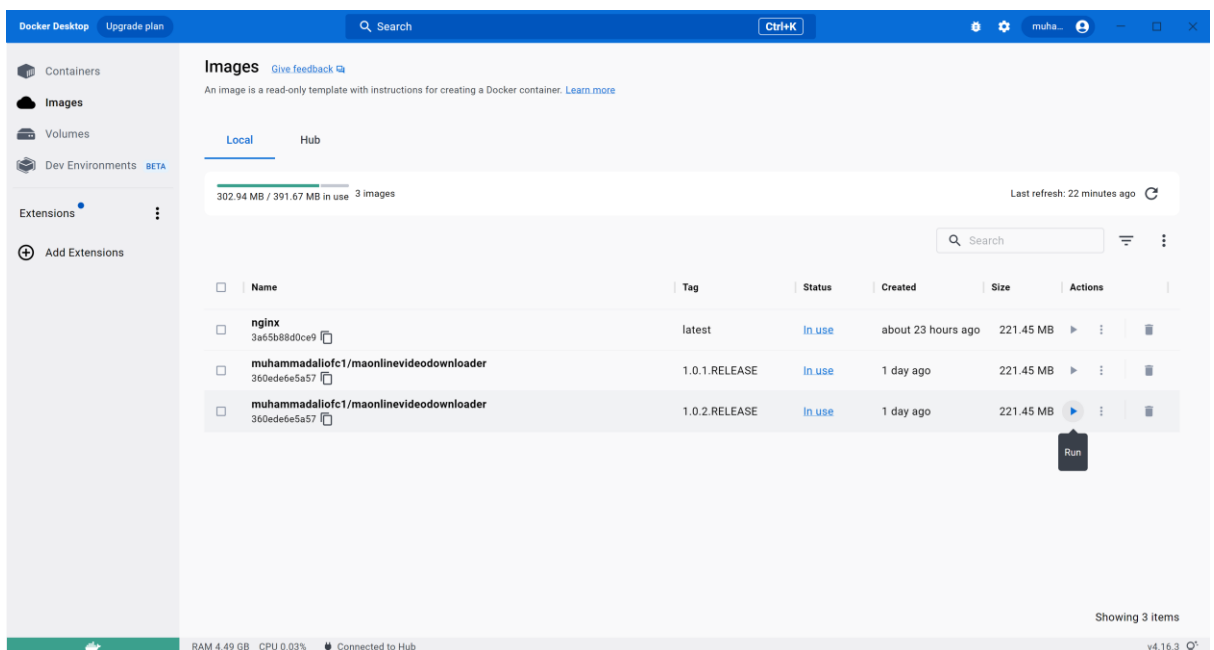


17. You can also check the status of Container by running below command

\$ docker container ls

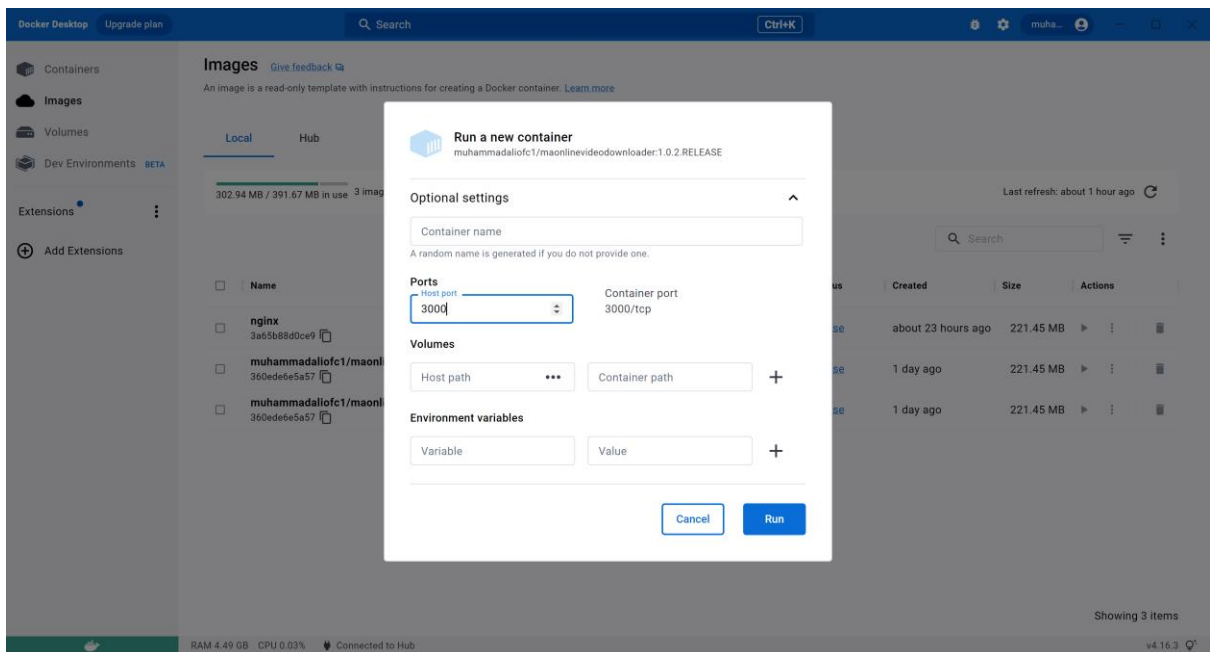
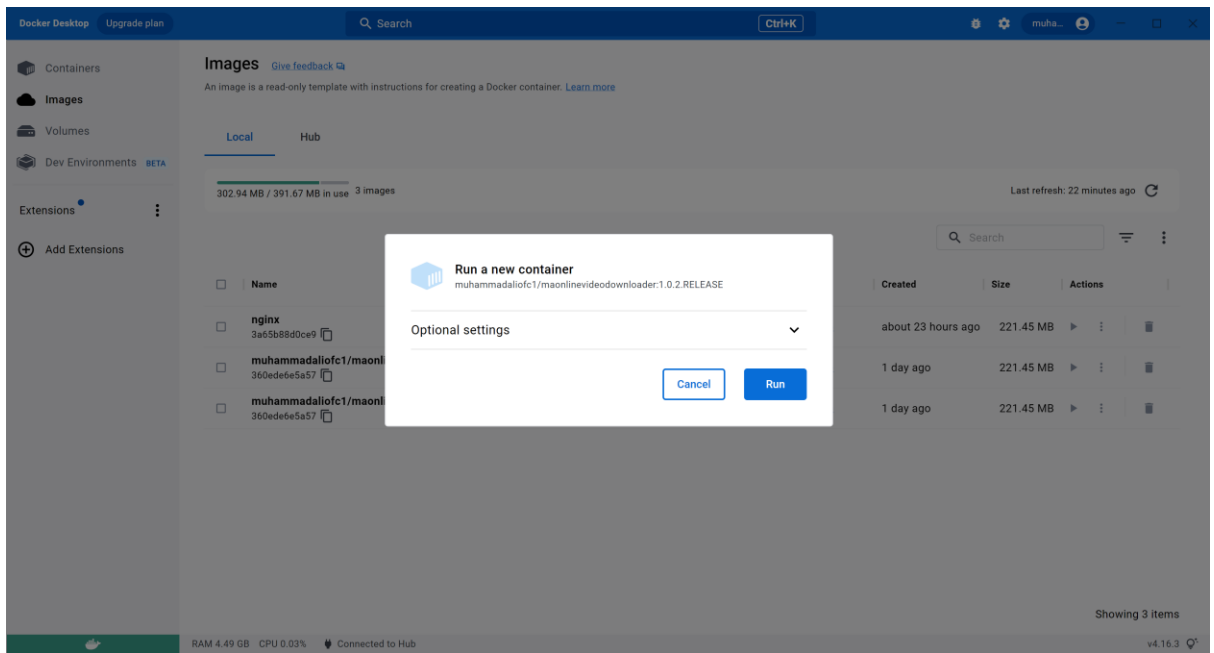


18. Second method is to click the **Run** button which is available in the front of this Docker Image.



19. A dialog box will appear. Click on Optional settings.

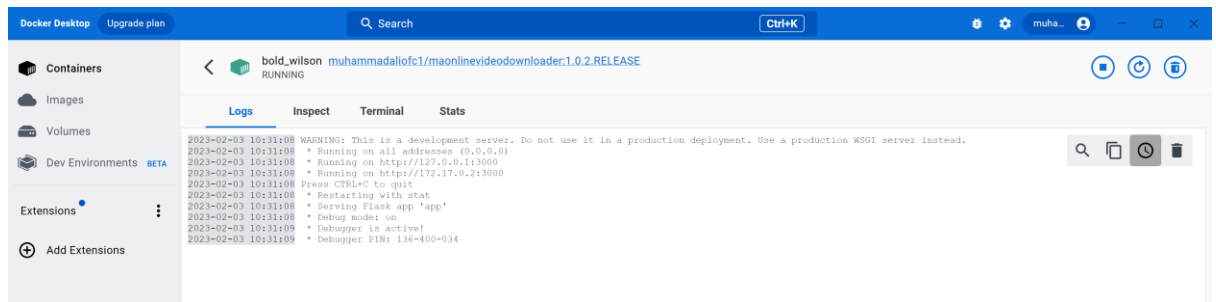
20. Select **Host port: 3000** and hit Run button.



21. The container will start running and same will appear in Docker Desktop Containers tab.

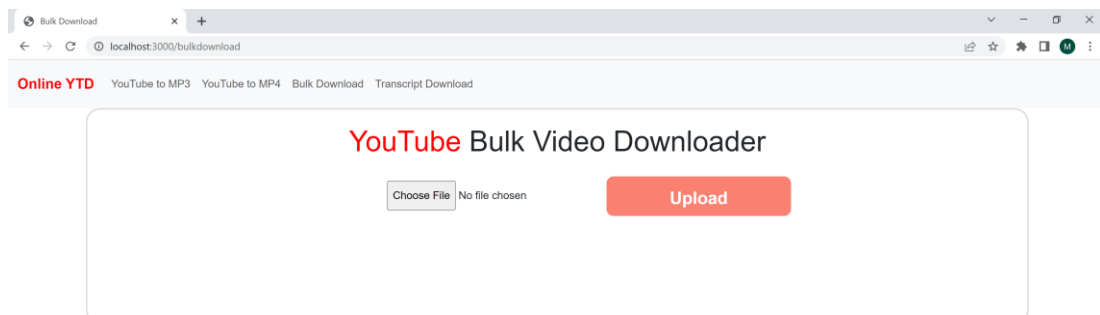
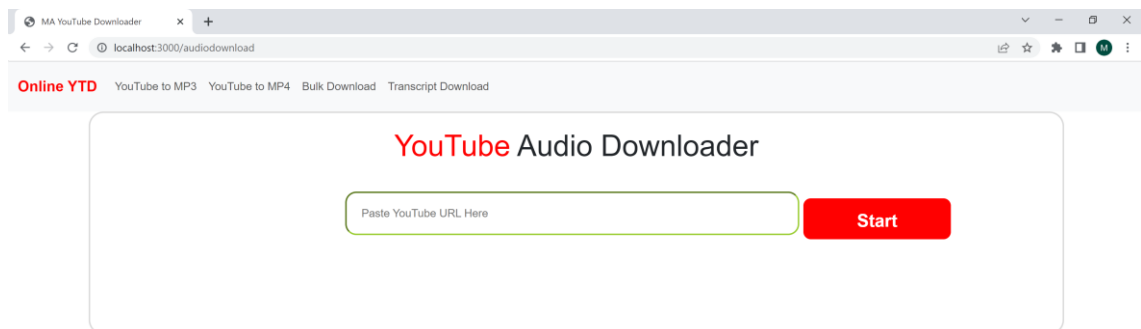
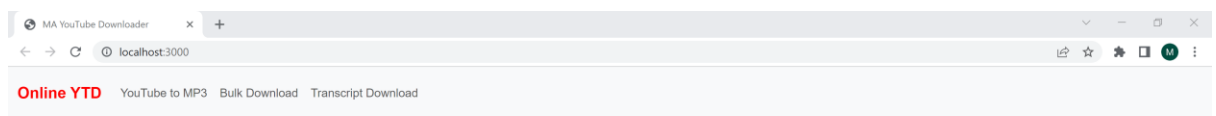


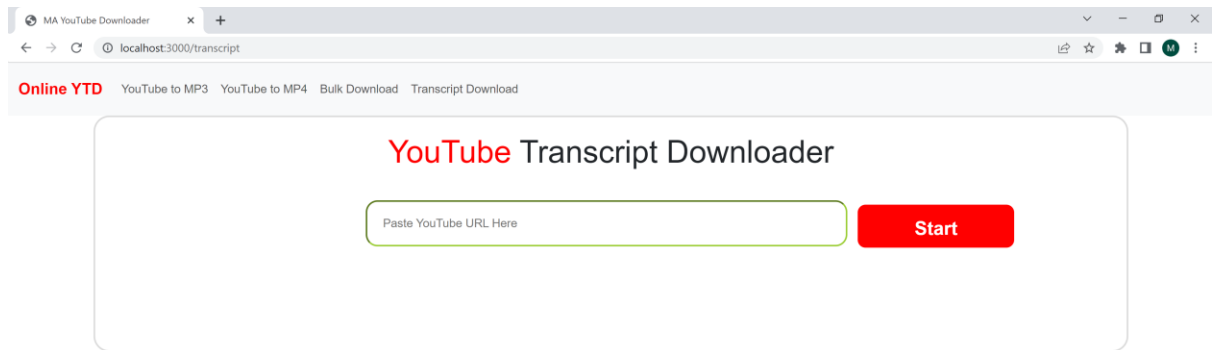
22. As you can see, this Docker Image is running as Container.



23. To access the **MA Online YouTube Video Downloader** web app just hit below URL.

<http://localhost:3000/>





24. Please follow the “**How to use MA Online YouTube Video Downloader**” to download Video/Audio/Transcript from YouTube.