Challenge 1 :

STEP BY STEP IMPLEMENTATION

1. Downloaded Docker Desktop using the link provided in the Midterm file (under the section "For Your Reference Resources") - https://www.docker.com/products/docker-desktop/.
2. Clicked on "Download for Windows" and downloaded Docker Desktop, settled it up till it showed the below page.
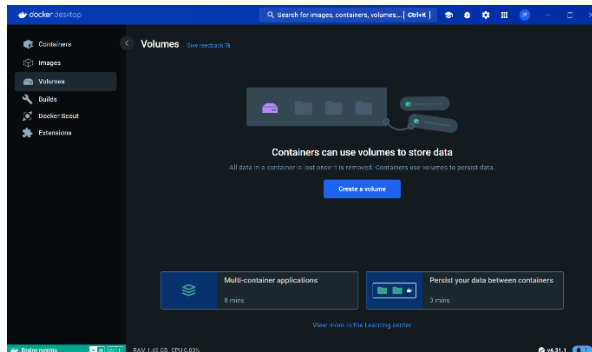

Figure 1 Docker Desktop Screenshot (local device.)

3. Then created a new folder in C drive named CONE (which stands for Challenge ONE) and as mentioned in the steps of Midterm file created a file named index.html.
4. In index.html I used the shortcut key "! and Enter" to write the raw formatted code of html file.
5. In that raw code I altered it according to the steps mentioned that it should contain my ID and NAME .(below attached is my code of index.html)

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Static Web page</title>
</head>
<body>
    <h1>ID= 000913461</h1>
    <h1>NAME= Preetinder Singh</h1>
</body>
</html>
```

6. After creating the index.html we were asked to create a Dockerfile to use NGinx so that it could serve pages existent on the public folder.
7. So, in my CONE I created a new file named Dockerfile (without any extension) which I learned from this video - https://www.youtube.com/watch?v=VaizIbeOhhE
8. In my Dockerfile I started with FROM nginx which tells Docker to use the NGinx image as the base image for your Dockerfile.
9. Then COPY index.html /usr/share/nginx/html/ which copies our "index.html" file to the default Nginx public directory.

10. <u>EXPOSE 8080</u> tells us which ports your application is listening on.
11. <u>CMD ["nginx", "-g", "daemon off;"]</u> is used to specify default commands.

I used this link - https://docs.docker.com/reference/dockerfile/ and this - https://hub.docker.com/_/nginx for research of the topic.

```
FROM nginx
COPY index.html /usr/share/nginx/html/
EXPOSE 8080
CMD ["nginx", "-g", "daemon off;"]
```

12. Once my code was ready, I saw the videos provided on this link https://docs.docker.com/guides/getting-started/ .
13. After watching and learning then I moved to the command "docker build -t my-nginx-image ."which builds a Docker image from our Dockerfile in the current directory and tags it as my-nginx-image.
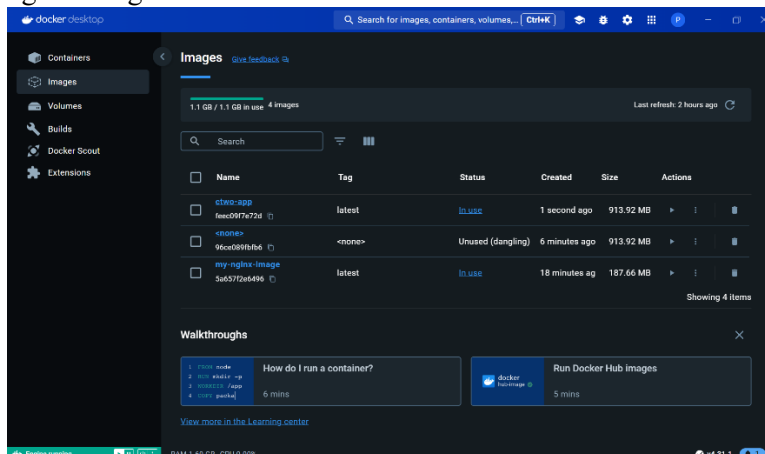
14. The other command which is "docker run -d -p 8080:80 --name my-nginx-container my-nginx-image" which starts a Docker container in the background, makes it accessible on our computer's port 8080, names it my-nginx-container, and uses the image my-nginx-image to set it up.
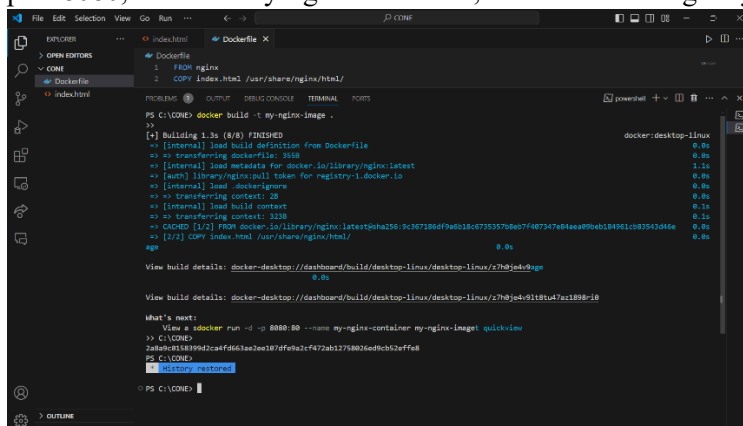
15. After everything runs error freely, we can move to our local browser and type this URL "http://localhost:8080/" .

16. You will see the image below.