

# Docker Project – Assessment 3

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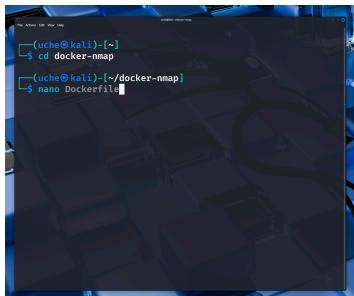
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## 1. Introduction

This project demonstrates the creation of a custom Docker image containing Nmap, a network scanning tool.

- Base image: Alpine Linux
- Installed tool: Nmap
- Default command: nmap

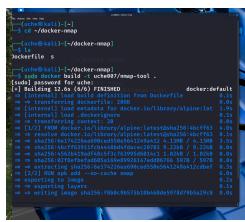
The Docker image has been tested locally and pushed to DockerHub for public access.



## 2. Project Steps

### Step 1: Create Project Folder

Created a folder docker-nmap in the home directory to store the Dockerfile and related files.



### Step 2: Create Dockerfile

Dockerfile content:

```
# Use a lightweight Linux image
```

```
FROM alpine:latest
```

```
# Install Nmap for network scanning  
RUN apk add --no-cache nmap
```

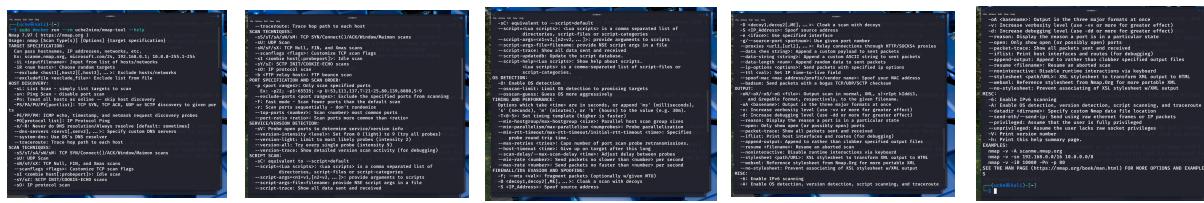
```
# Set default command to nmap  
ENTRYPOINT ["nmap"]
```



## Step 3: Build Docker Image

Command:

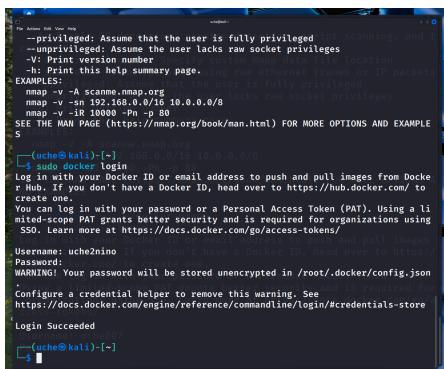
```
sudo docker build -t uche2nino/nmap-tool .
```



## Step 4: Test Docker Image

Commands:

```
sudo docker run --rm uche2nino/nmap-tool --help  
sudo docker run --rm uche2nino/nmap-tool -sV scanme.nmap.org
```



## Step 5: Push to DockerHub

Commands:

```
sudo docker login
```

```
sudo docker push uche2nino/nmap-tool
```

DockerHub repository link:

<https://hub.docker.com/r/uche2nino/nmap-tool>

The image consists of four screenshots illustrating the DockerHub interface and terminal commands.

- Screenshot 1 (Top Left):** Terminal window showing the command "sudo docker login". It displays a warning about password storage and instructions for creating a Docker ID.
- Screenshot 2 (Top Right):** Terminal window showing the command "sudo docker push uche2nino/nmap-tool". It shows the progress of the push operation, including the creation of a new image named "ucheb2nino/nmap-tool:latest".
- Screenshot 3 (Bottom Left):** DockerHub UI showing the "ucheb2nino/nmap-tool" repository. It lists the "ucheb2nino/nmap-tool:latest" image and provides a "Get Dockerfile" button.
- Screenshot 4 (Bottom Right):** DockerHub UI showing the "ucheb2nino/nmap-tool" repository. It lists the "ucheb2nino/nmap-tool:latest" image and provides a "Get Dockerfile" button.

## 3. Conclusion

The Docker image `uche2nino/nmap-tool` was successfully created, tested, and published. It provides a ready-to-use environment for network scanning with Nmap, demonstrating:

1. Dockerfile creation
2. Image building
3. Local testing
4. Pushing to DockerHub

