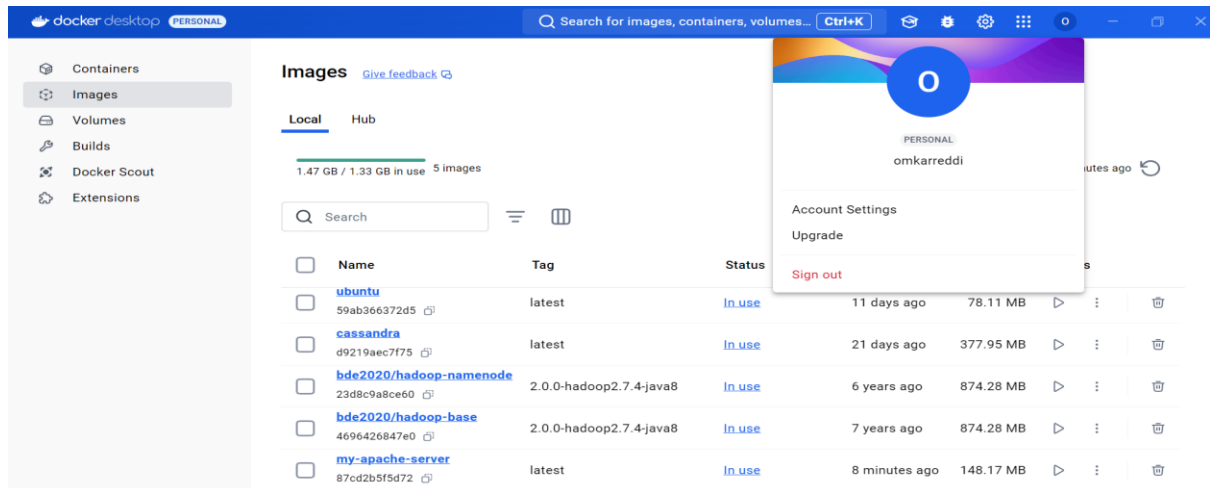**Experiment No . 6**

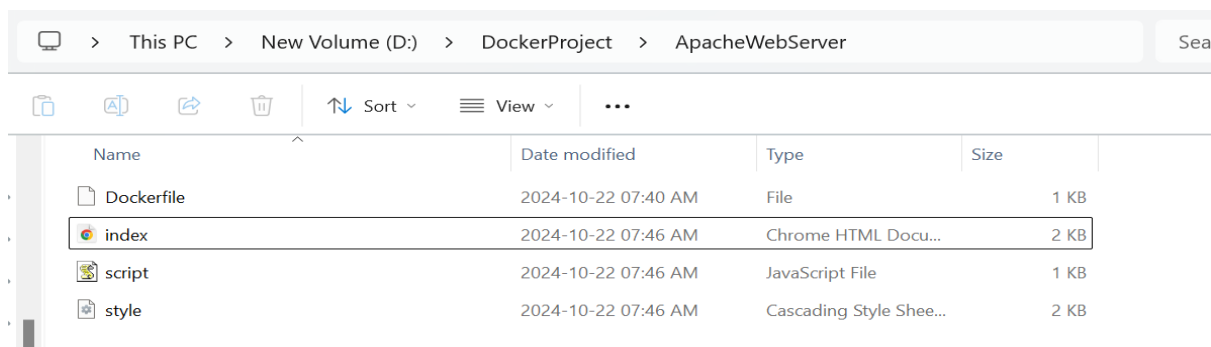**Title : Exploring Containerization and Application Deployment with Docker**
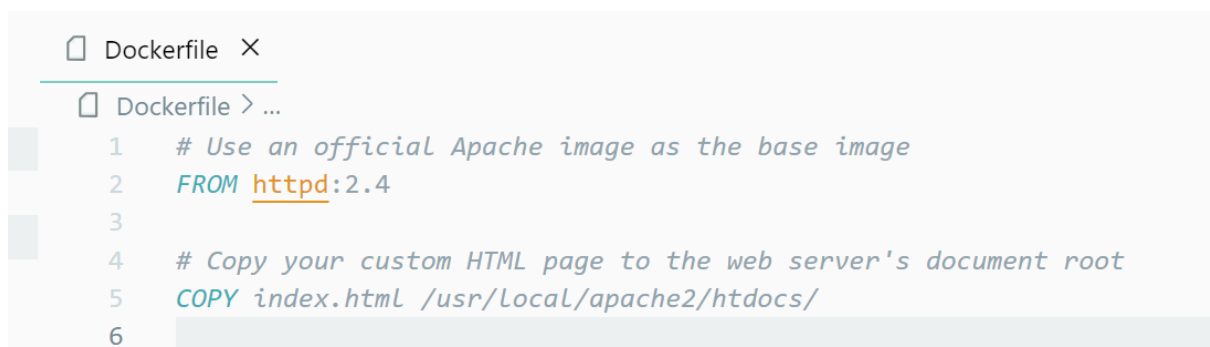
_____

Step 1) Install Docker

And verify docker installation;

```
C:\Users\OMKAR>docker --version
Docker version 27.2.0, build 3ab4256
```

Step 2) Create simple HTML Page at   D:\DockerProjects\ApacheWebServer

Step 3) Create a Docker File in same directory of web sever project.   (No extension)


```
1   # Use an official Apache image as the base image
2   FROM httpd:2.4
3
4   # Copy your custom HTML page to the web server's document root
5   COPY index.html /usr/local/apache2/htdocs/
6
```

Step 4) Build the Docker image.

```
D:\DockerProject\ApacheWebServer>docker build -t my-apache-server .
[+] Building 2.9s (8/8) FINISHED                                                    docker:desktop-linux
 => [internal] load build definition from Dockerfile                                               0.0s
 => => transferring dockerfile: 215B                                                               0.0s
 => [internal] load metadata for docker.io/library/httpd:2.4                                       2.6s
 => [auth] library/httpd:pull token for registry-1.docker.io                                       0.0s
 => [internal] load .dockerignore                                                                  0.0s
 => => transferring context: 2B                                                                    0.0s
 => [internal] load build context                                                                  0.0s
 => => transferring context: 1.09kB                                                                0.0s
 => CACHED [1/2] FROM docker.io/library/httpd:2.4@sha256:bbea29057f25d9543e6a96a8e3cc7c7c937206d20eab2323f478fdb2  0.0s
 => [2/2] COPY index.html /usr/local/apache2/htdocs/                                               0.0s
 => exporting to image                                                                             0.1s
 => => exporting layers                                                                            0.0s
 => => writing image sha256:490d21d53657376d9ee27be34527d39e24d3772e5129c3215124a93f08b075c4       0.0s
 => => naming to docker.io/library/my-apache-server                                                0.0s

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/06c2i2kkr89p496od91fhq0sx
```

Step 5) Run the Docker Container.

```
D:\DockerProject\ApacheWebServer>docker run -p 8082:80 -d my-apache-server
fc7f09eb79a3d3da4aea6c2a48b5170ff99efba682635d63f25f57b4a0c46331
```

Step 6) Access your apache web server using **http://localhost:8082**

```
←   →   C   ⌂   ⓘ   localhost:8082
```

Employee Login

Username [Enter your username]
Password [Enter your password]
[Login]

Step 7) Cleanup.

Stop running Docker container ;

1.Get the container ID by running:

```
D:\DockerProject\ApacheWebServer>docker ps
CONTAINER ID   IMAGE              COMMAND              CREATED         STATUS         PORTS                    NAMES
fc7f09eb79a3   my-apache-server   "httpd-foreground"   3 minutes ago   Up 3 minutes   0.0.0.0:8082->80/tcp     cool_lamport
4dd607545175   87cd2b5f5d72       "httpd-foreground"   18 minutes ago  Up 18 minutes  0.0.0.0:8081->80/tcp     quizzical_mccarthy
88fb625d303c   87cd2b5f5d72       "httpd-foreground"   19 minutes ago  Up 19 minutes  0.0.0.0:8070->80/tcp     stupefied_spence
```

Then stop the container:

```
D:\DockerProject\ApacheWebServer>docker stop c1ffe4087b20
c1ffe4087b20
```

2.Remove the container and image;

```
D:\DockerProject\ApacheWebServer>docker rm c1ffe4087b20
c1ffe4087b20
```

Remove the Docker image :

```
D:\DockerProject\ApacheWebServer>docker rmi my-apache-server
Untagged: my-apache-server:latest
Deleted: sha256:490d21d53657376d9ee27be34527d39e24d3772e5129c3215124a93f08b075c4
```