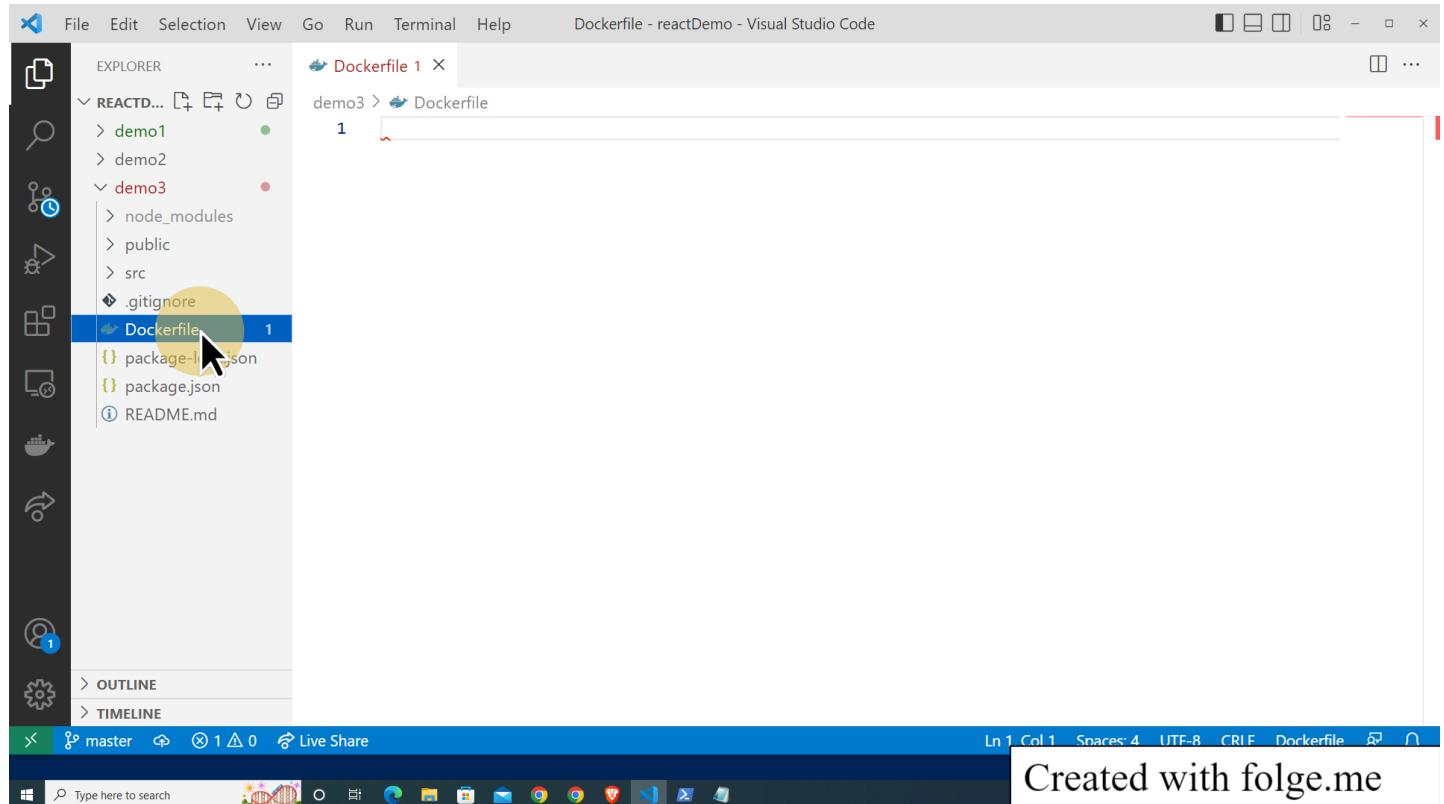


Creating docker image and push to DockerHub

1. Creating docker image with Dockerfile

2. Create new Dockerfile.

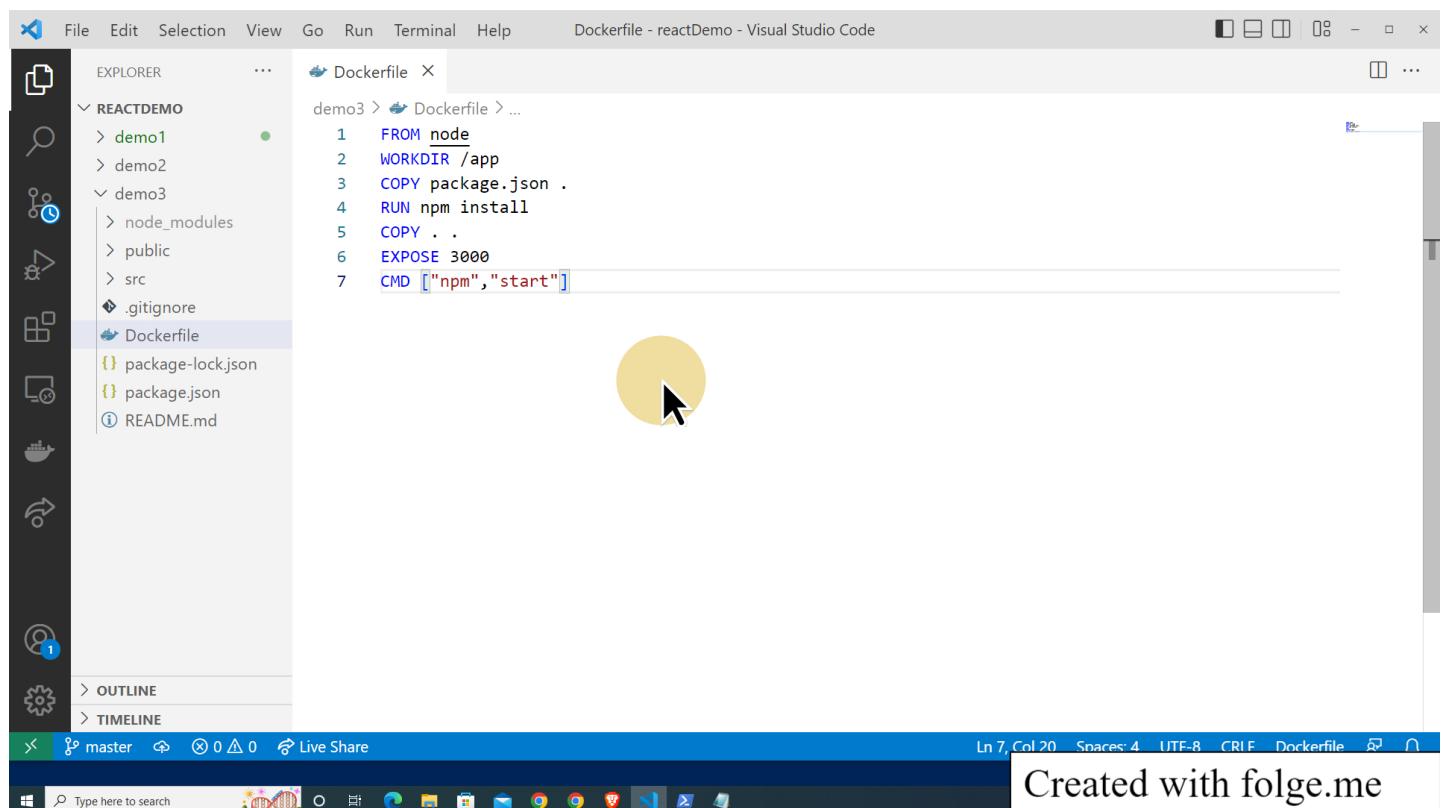
Create new Dockerfile in the react app root folder.



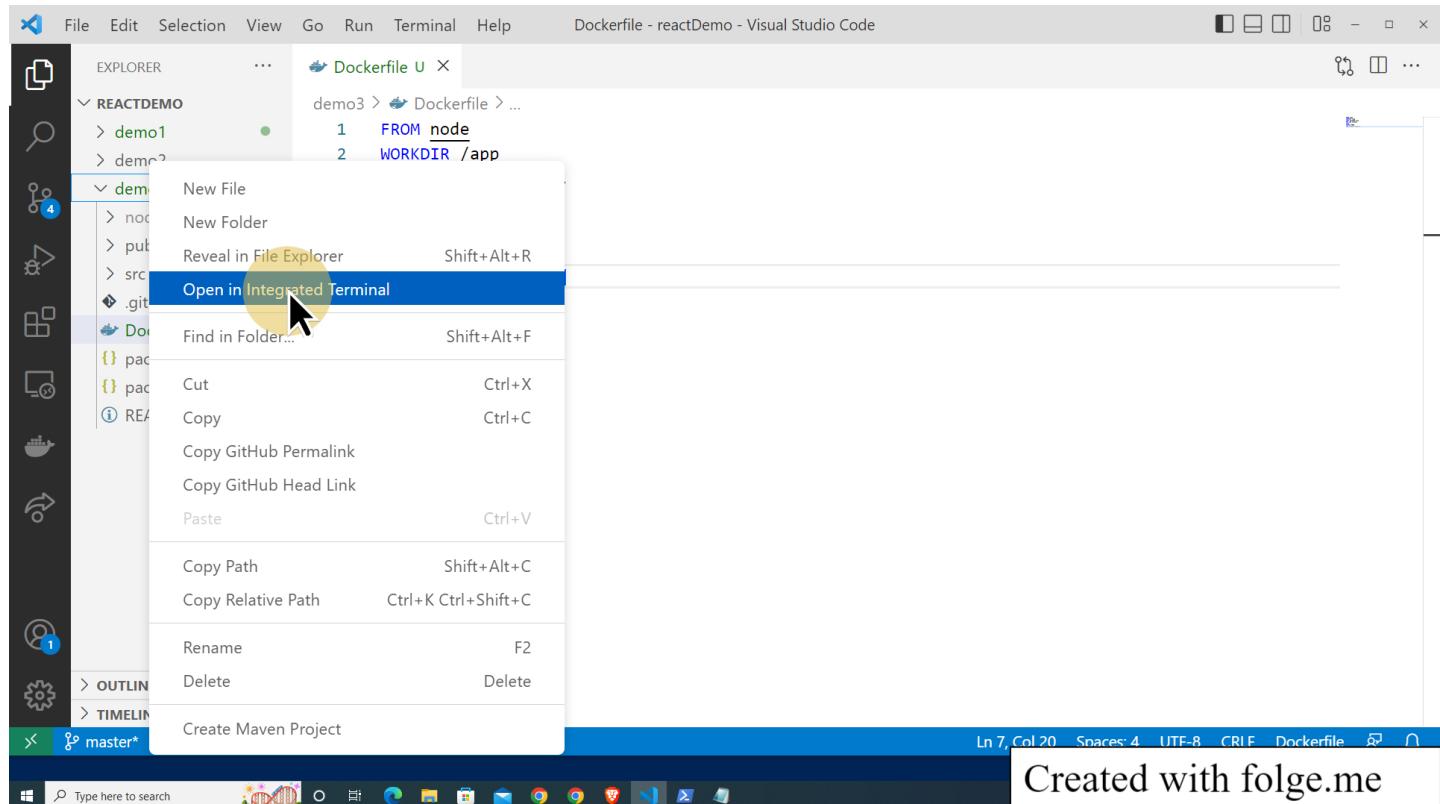
3. Edit the Dockerfile

Create a base image first and the copy the app forf the local system to the docker image.

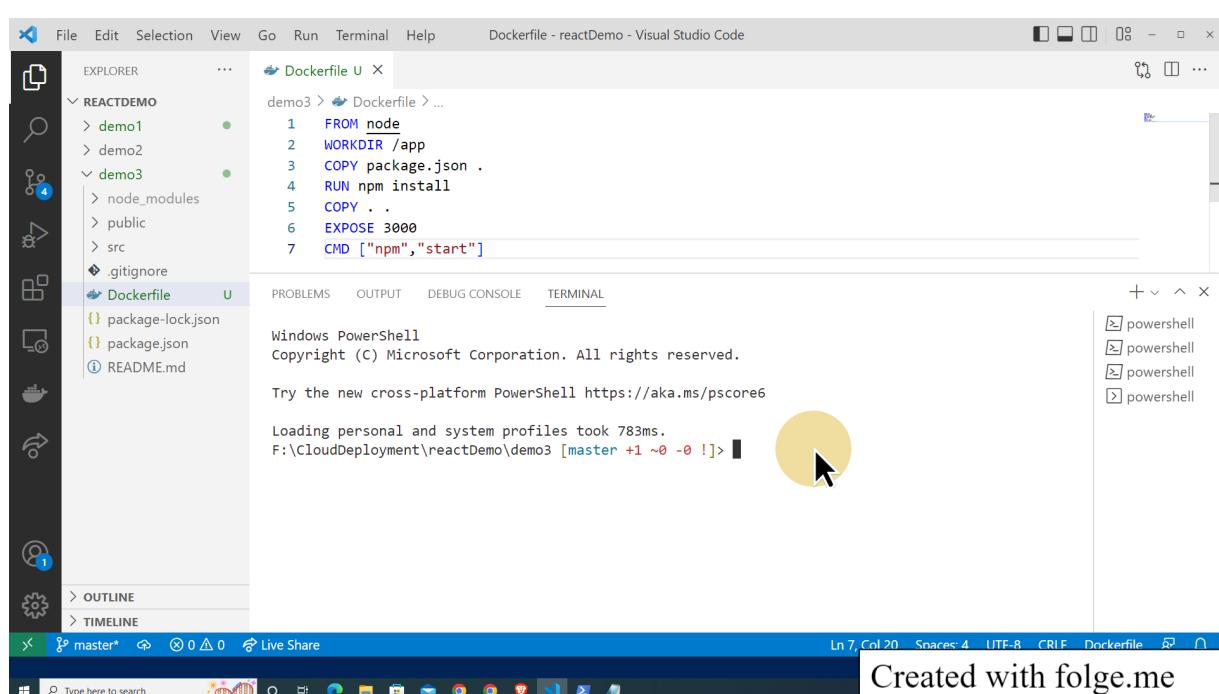
```
FROM node
  WORKDIR /app
  COPY package.json .
  RUN npm install
  COPY ..
  EXPOSE 3000
  CMD ["npm", "start"]
```



4. Open the terminal in VSCode



4.1



5. Build the docker image

Build the image by typing the command

1 docker build

2 -t In current terminal session

3 [Name of the image]

```
>docker build -t demo3_react
```

```
F:\CloudDeployment\reactDemo\demo3 [master +1 ~0 -0 !] > docker build -t demo3_react .
[+] Building 194.1s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 142B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/node:latest
=> [auth] library/node:pull token for registry-1.docker.io
=> [1/5] FROM docker.io/library/node@sha256:a6f295c2354992f827693a2603c8b9b5b487db4da0714
=> => resolve docker.io/library/node@sha256:a6f295c2354992f827693a2603c8b9b5b487db4da0714
=> [internal] load build context
=> => transferring context: 275.09MB
=> CACHED [2/5] WORKDIR /app
=> [3/5] COPY package.json .
=> [4/5] RUN npm install
=> [5/5] COPY . .
=> => exporting to image
=> => exporting layers
=> => writing image sha256:3f2df10b4ef8e48533143833c7a5ce3a2a88467675dfb29c349ea4a1ef76f9
=> => naming to docker.io/library/demo3_react
```

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

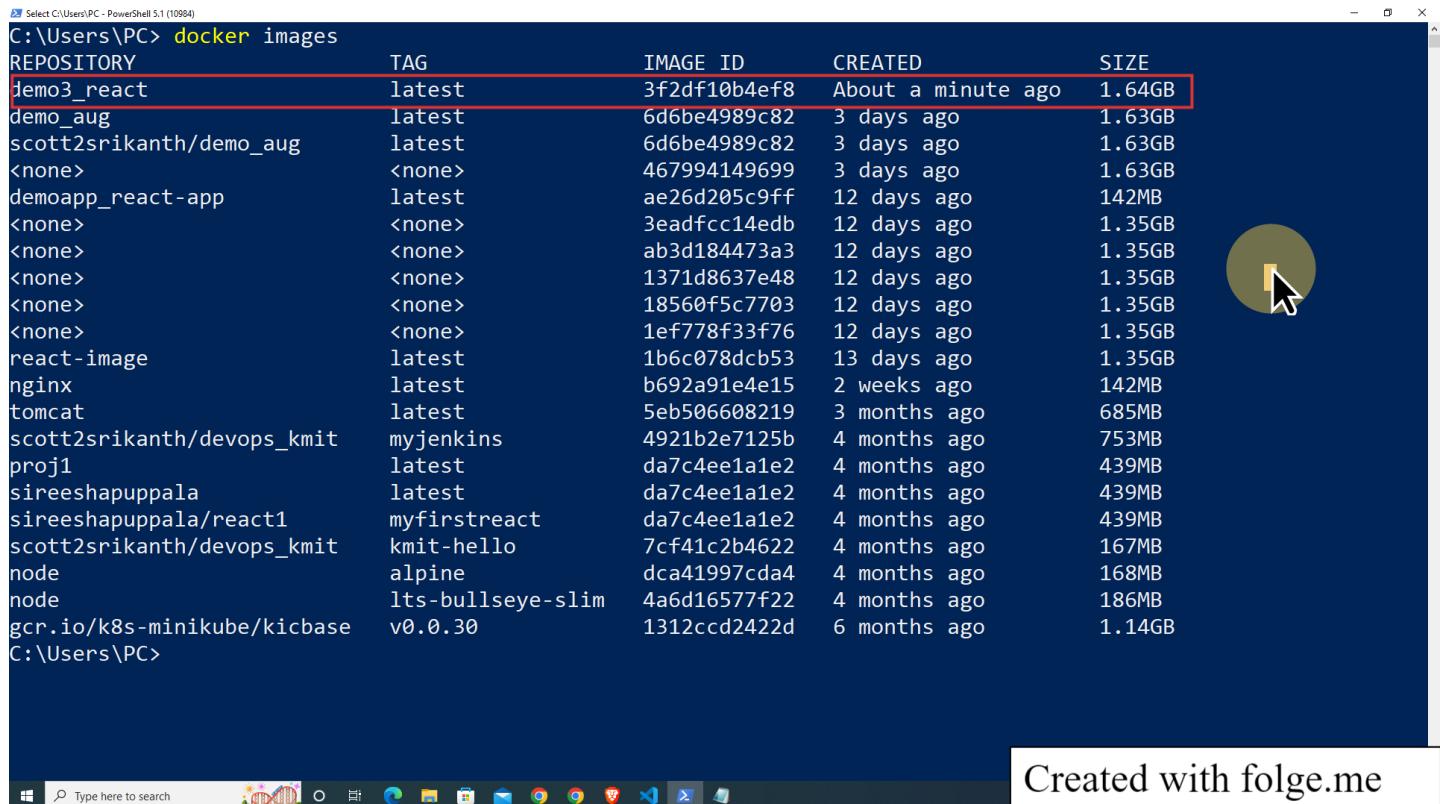
F:\CloudDeployment\reactDemo\demo3 [master +1 ~0 -0 !]>

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5.1 Check the docker image

Docker image built, to check it type

```
>docker images
```



```
C:\Users\PC> docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
demo3_react        latest   3f2df10b4ef8  About a minute ago  1.64GB
demo_aug           latest   6d6be4989c82  3 days ago    1.63GB
scott2srikanth/demo_aug     latest   6d6be4989c82  3 days ago    1.63GB
<none>            <none>   467994149699  3 days ago    1.63GB
demoapp_react-app  latest   ae26d205c9ff  12 days ago   142MB
<none>            <none>   3eadfcc14edb  12 days ago   1.35GB
<none>            <none>   ab3d184473a3  12 days ago   1.35GB
<none>            <none>   1371d8637e48  12 days ago   1.35GB
<none>            <none>   18560f5c7703  12 days ago   1.35GB
<none>            <none>   1ef778f33f76  12 days ago   1.35GB
react-image        latest   1b6c078dc53   13 days ago   1.35GB
nginx              latest   b692a91e4e15  2 weeks ago   142MB
tomcat             latest   5eb506608219  3 months ago  685MB
scott2srikanth/devops_kmit  myjenkins  4921b2e7125b  4 months ago  753MB
proj1              latest   da7c4ee1a1e2   4 months ago  439MB
sireeshapuppala   latest   da7c4ee1a1e2   4 months ago  439MB
sireeshapuppala/react1  myfirstreact  da7c4ee1a1e2   4 months ago  439MB
scott2srikanth/devops_kmit  kmit-hello   7cf41c2b4622  4 months ago  167MB
node               alpine    dca41997cda4   4 months ago  168MB
node               lts-bullseye-slim  4a6d16577f22  4 months ago  186MB
gcr.io/k8s-minikube/kicbase v0.0.30   1312cccd2422d  6 months ago  1.14GB
C:\Users\PC>
```

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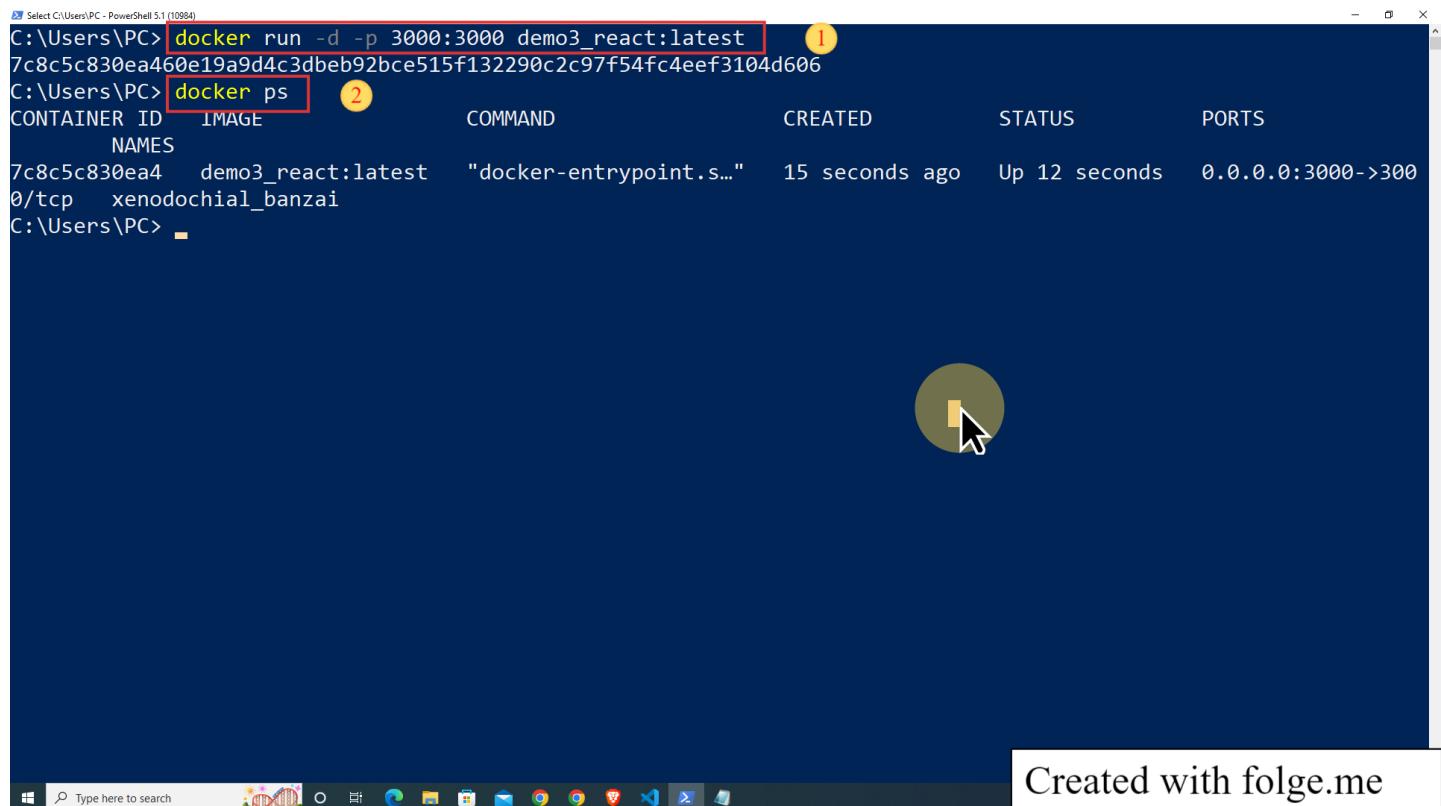
5.2 Run the docker image

Type command

```
>docker run -d -p 3000:3000 demo3_react:latest
```

To check the container

```
>docker ps
```



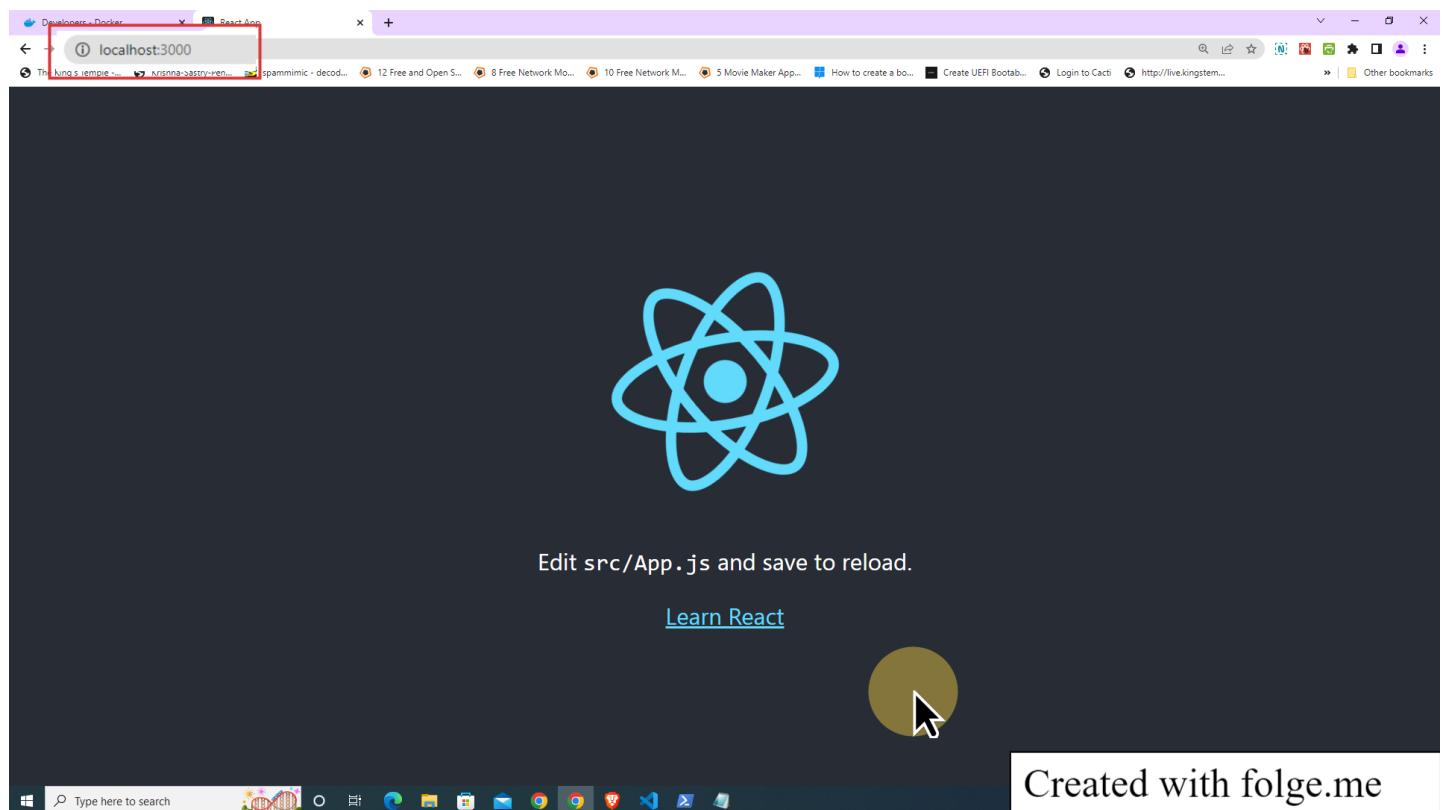
```
PS C:\Users\PC> docker run -d -p 3000:3000 demo3_react:latest ①
7c8c5c830ea460e19a9d4c3dbeb92bce515f132290c2c97f54fc4eff3104d606
C:\Users\PC> docker ps ②
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
 NAMES
7c8c5c830ea4        demo3_react:latest   "docker-entrypoint.s..."   15 seconds ago    Up 12 seconds   0.0.0.0:3000->3000
0/tcp    xenodochial_banzai
C:\Users\PC>
```

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5.3 Output of the react app image

Navigate to the browser and type

http://localhost:3000

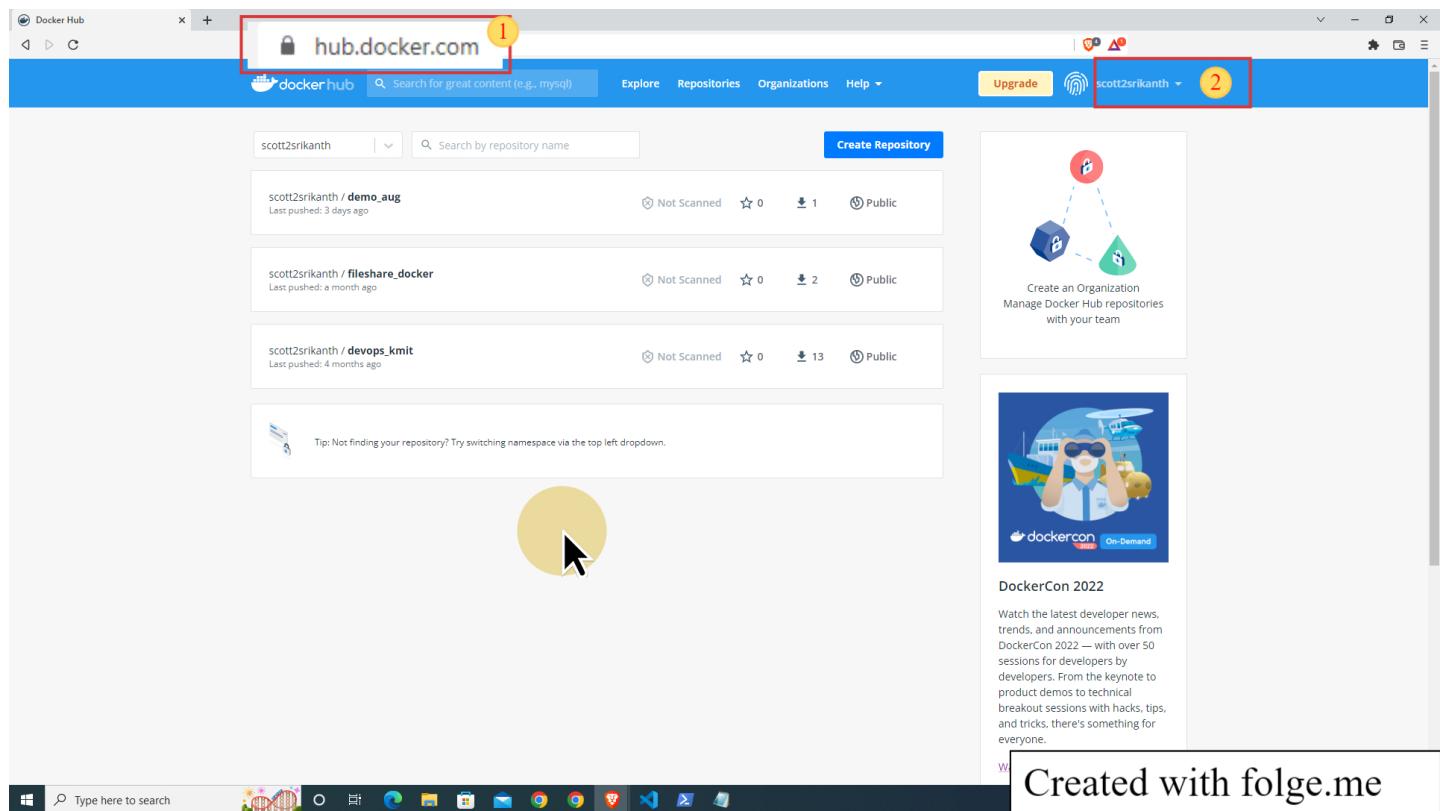


6. Push the docker image to docker hub

6.1 Docker Hub Account

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

2 Login with your account



6.2 Stop the container running locally

Stop the container running locally in your system.

1 Stop the container

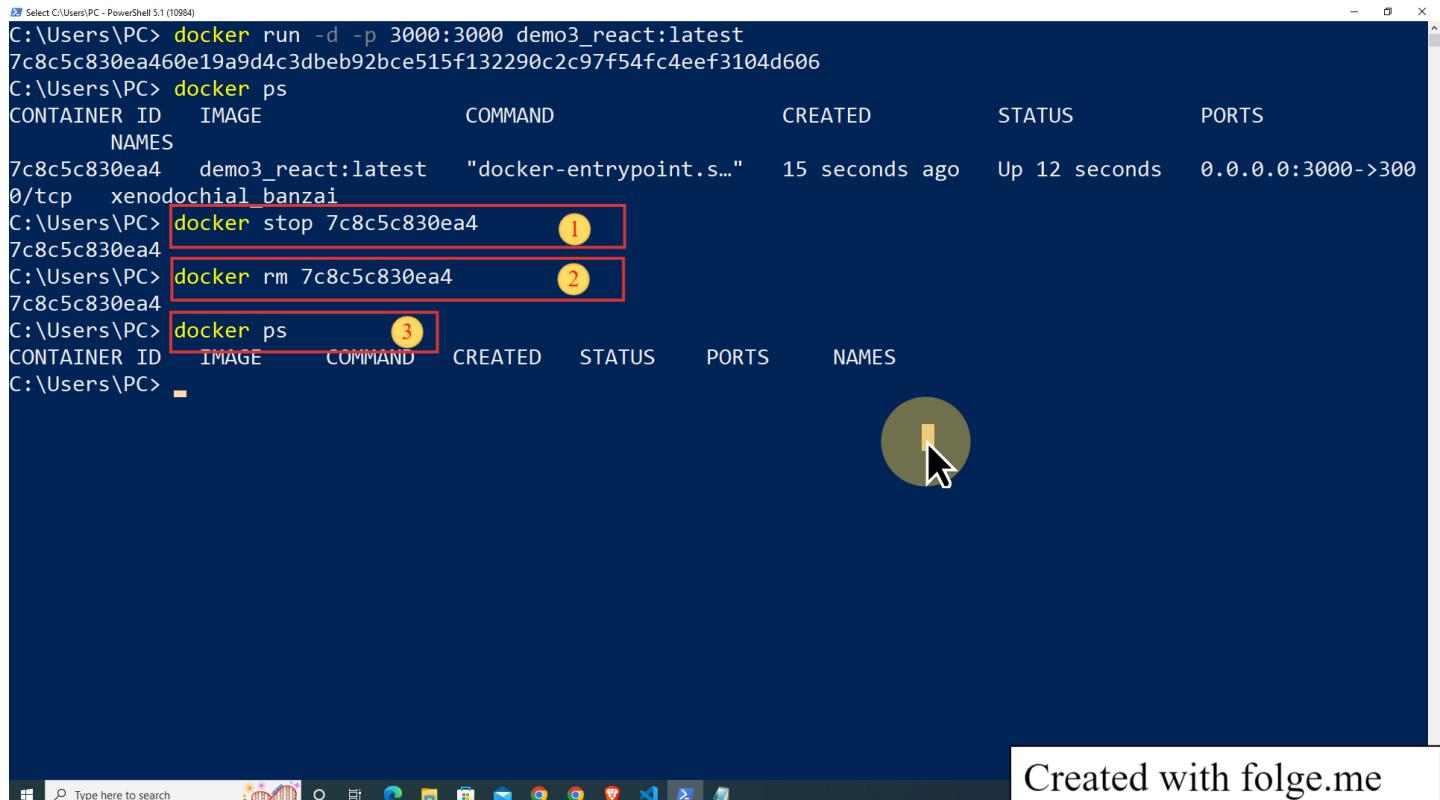
```
>docker stop [image ID or image name]
```

2 Remove the container

```
>docker rm [image ID or image name]
```

3 Check any container process running

```
>docker ps
```



The screenshot shows a Windows PowerShell window with the following content:

```

Select C:\Users\PC - PowerShell 5.1 (10984)
C:\Users\PC> docker run -d -p 3000:3000 demo3_react:latest
7c8c5c830ea460e19a9d4c3dbeb92bce515f132290c2c97f54fc4eeef3104d606
C:\Users\PC> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
7c8c5c830ea4 demo3_react:latest "docker-entrypoint.s..." 15 seconds ago Up 12 seconds 0.0.0.0:3000->3000
0/tcp xenodochial_banzai
C:\Users\PC> docker stop 7c8c5c830ea4 ①
7c8c5c830ea4
C:\Users\PC> docker rm 7c8c5c830ea4 ②
7c8c5c830ea4
C:\Users\PC> docker ps ③
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
C:\Users\PC>

```

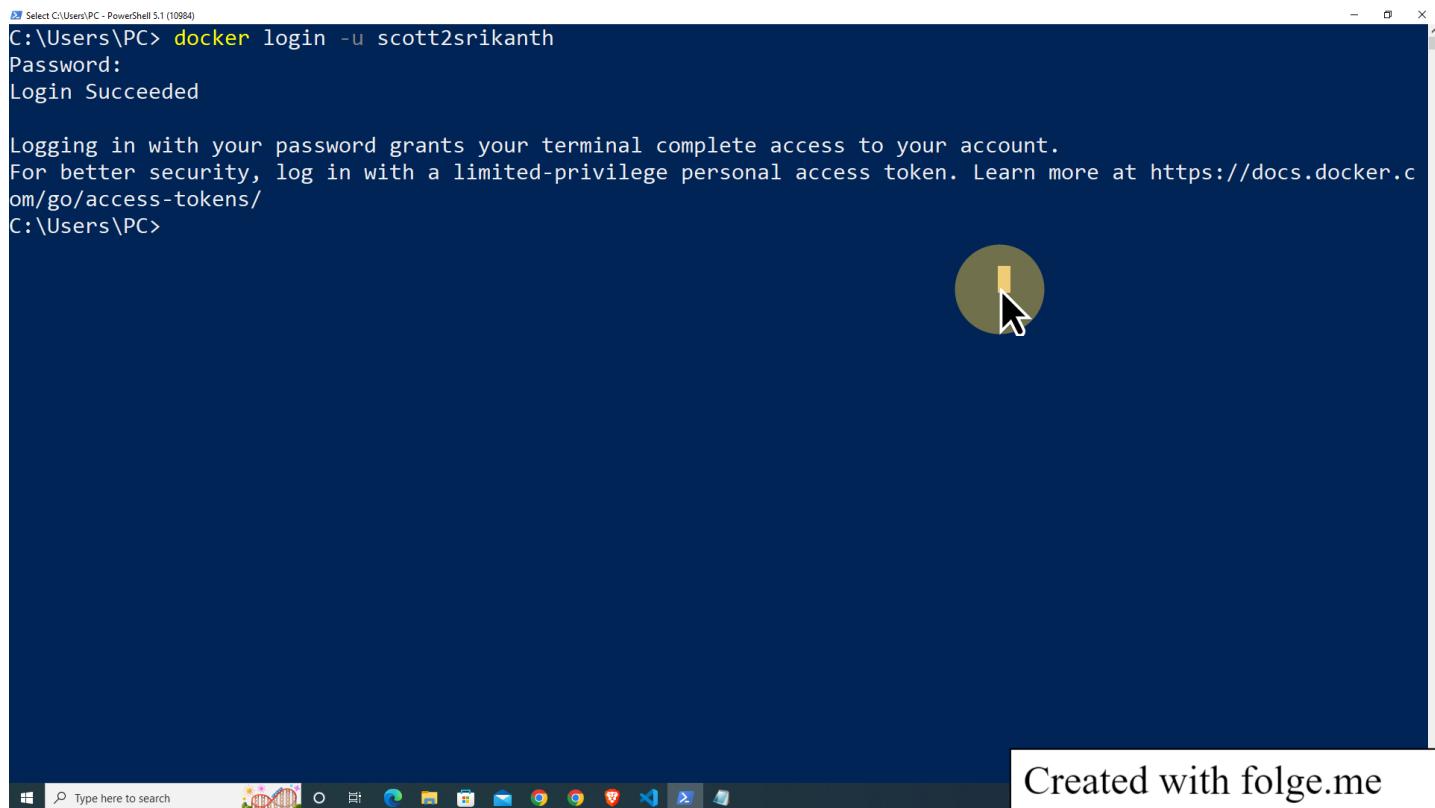
A mouse cursor is hovering over the PowerShell window. Three red boxes with yellow circles containing numbers 1, 2, and 3 are overlaid on the terminal output, pointing to specific lines: 1 points to the 'docker stop' command, 2 points to the 'docker rm' command, and 3 points to the 'docker ps' command. A circular arrow icon with a cursor is visible in the bottom right corner of the window.

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6.3 Login to remote (docker hub) using termimal/powershell

Login to docker hub.

```
>docker login -u [username]
```



```
C:\Users\PC> docker login -u scott2srikanth
Password:
Login Succeeded

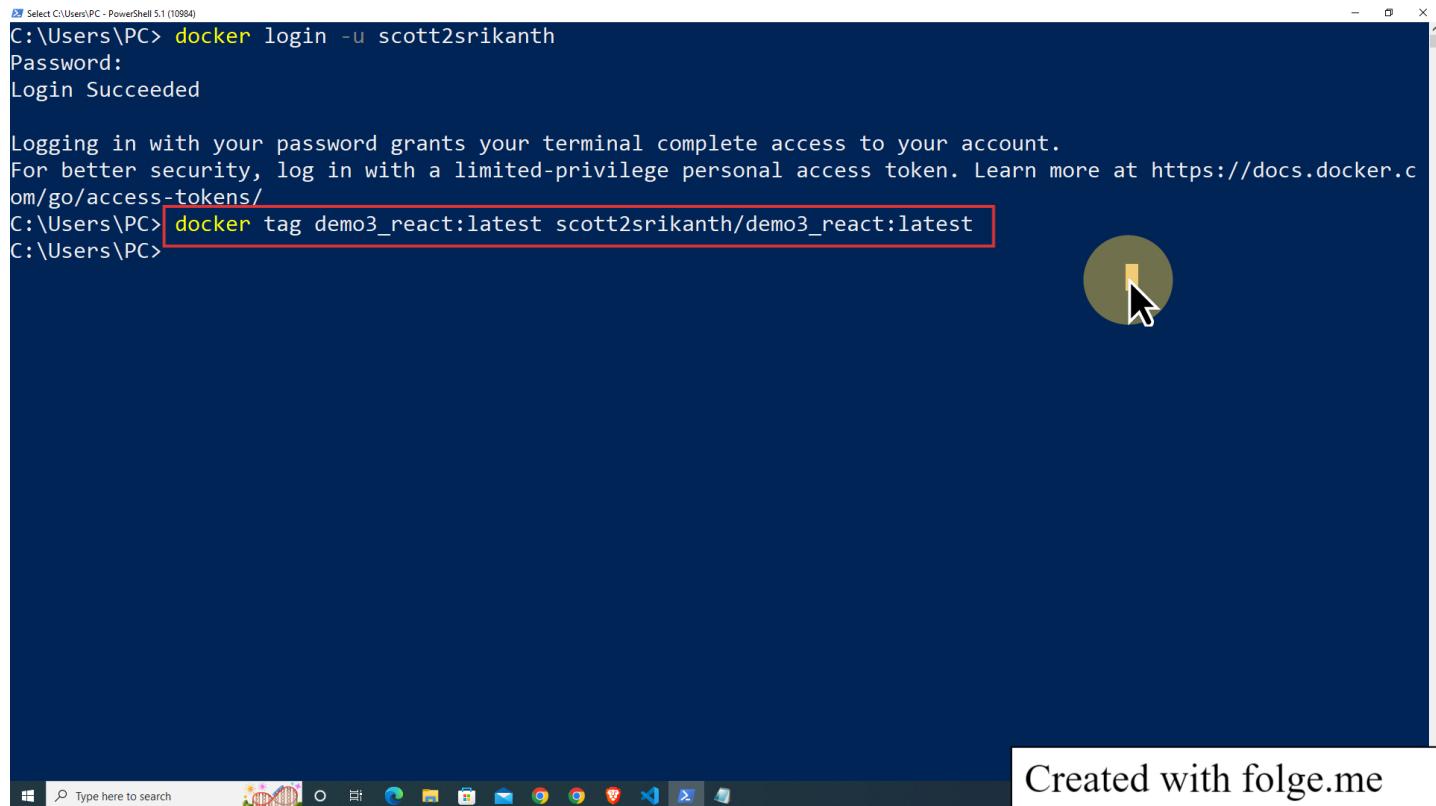
Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.c
om/go/access-tokens/
C:\Users\PC>
```

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6.4 Edit docker image tag

Tag is important identifier and should reflect the repository name

```
>docker tag demo3_react:latest scott2srikanth/demo3_react:latest
```



A screenshot of a Windows PowerShell window titled "Select C:\Users\PC - PowerShell 5.1 (10984)". The command entered is "docker tag demo3_react:latest scott2srikanth/demo3_react:latest". The command is highlighted with a red rectangle. A yellow arrow points from the bottom right towards the highlighted command. The background shows a dark blue desktop environment with various icons on the taskbar.

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6.5

Check the tag

```
>docker images
```

```

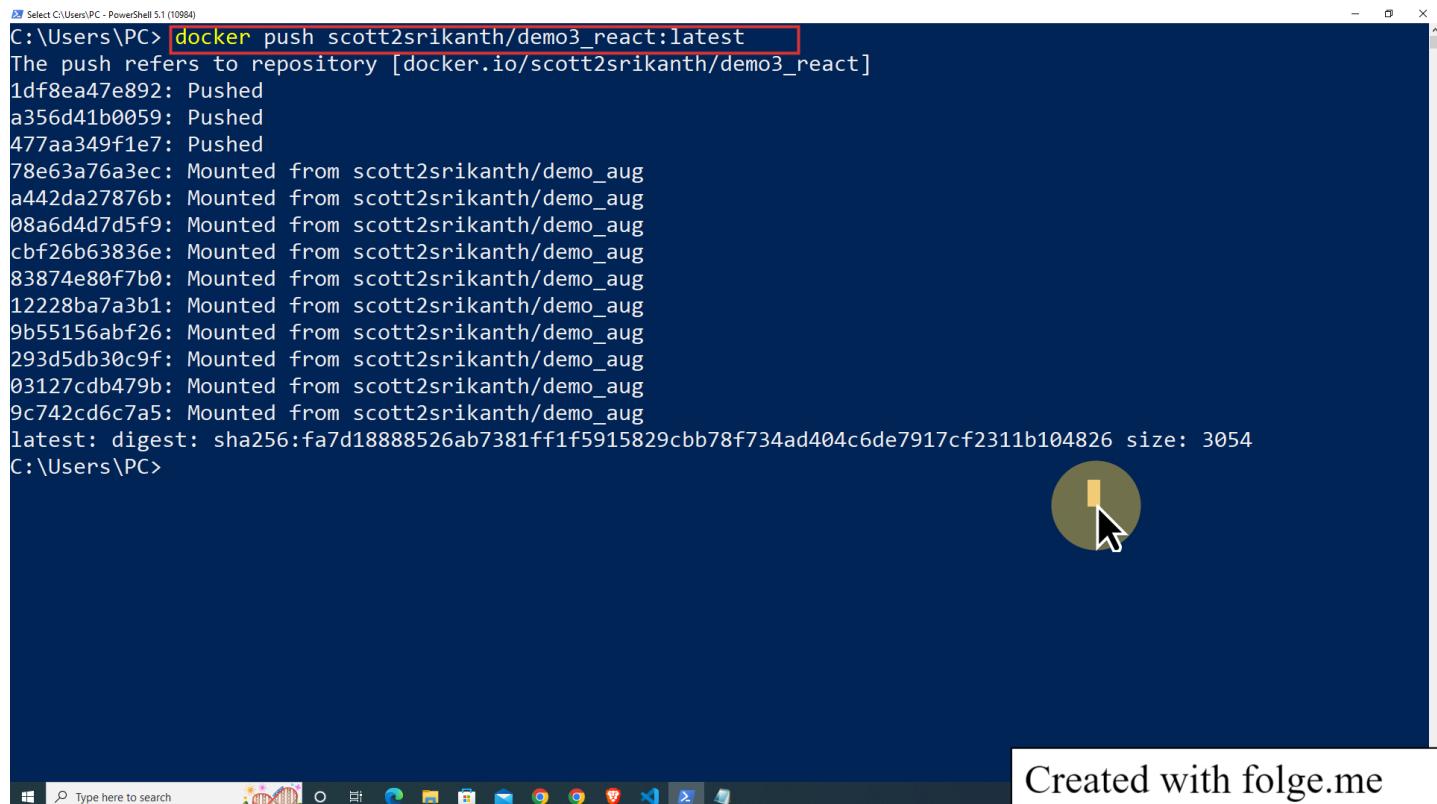
Select C:\Users\PC - PowerShell 5.1 (10984)
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/
C:\Users\PC> docker tag demo3_react:latest scott2srikanth/demo3_react:latest
C:\Users\PC> docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
scott2srikanth/demo3_react    latest    3f2df10b4ef8  11 minutes ago  1.64GB
demo3_react          latest    3f2df10b4ef8  11 minutes ago  1.64GB
demo_aug             latest    6d6be4989c82   3 days ago   1.63GB
scott2srikanth/demo_aug    latest    6d6be4989c82   3 days ago   1.63GB
<none>              <none>   467994149699  3 days ago   1.63GB
demoapp_react-app     latest    ae26d205c9ff   12 days ago  142MB
<none>              <none>   3eadfcc14edb   12 days ago  1.35GB
<none>              <none>   ab3d184473a3   12 days ago  1.35GB
<none>              <none>   1371d8637e48   12 days ago  1.35GB
<none>              <none>   18560f5c7703   12 days ago  1.35GB
<none>              <none>   1ef778f33f76   12 days ago  1.35GB
react-image           latest    1b6c078dcb53   13 days ago  1.35GB
nginx                latest    b692a91e4e15   2 weeks ago  142MB
tomcat               latest    5eb506608219  3 months ago  685MB
scott2srikanth/devops_kmit  myjenkins  4921b2e7125b   4 months ago  753MB
proj1                latest    da7c4ee1a1e2   4 months ago  439MB
sireeshapuppala      latest    da7c4ee1a1e2   4 months ago  439MB
sireeshapuppala/react1  myfirstreact  da7c4ee1a1e2   4 months ago  439MB
scott2srikanth/devops_kmit  kmit-hello  7cf41c2b4622   4 months ago  167MB
node                 alpine    dca41997cda4   4 months ago  168MB
node                 lts-bullseye-slim  4a6d16577f22   4 months ago  186MB
gcr.io/k8s-minikube/kicbase v0.0.30    1312cccd2422d  6 months ago  1.14GB
C:\Users\PC>

```

Created with folge.me

6.6 Push the docker image

```
>docker push scott2srikanth/demo3_react:latest
```



```
C:\Users\PC> docker push scott2srikanth/demo3_react:latest
The push refers to repository [docker.io/scott2srikanth/demo3_react]
1df8ea47e892: Pushed
a356d41b0059: Pushed
477aa349f1e7: Pushed
78e63a76a3ec: Mounted from scott2srikanth/demo_aug
a442da27876b: Mounted from scott2srikanth/demo_aug
08a6d4d7d5f9: Mounted from scott2srikanth/demo_aug
cbf26b63836e: Mounted from scott2srikanth/demo_aug
83874e80f7b0: Mounted from scott2srikanth/demo_aug
12228ba7a3b1: Mounted from scott2srikanth/demo_aug
9b55156abf26: Mounted from scott2srikanth/demo_aug
293d5db30c9f: Mounted from scott2srikanth/demo_aug
03127cdb479b: Mounted from scott2srikanth/demo_aug
9c742cd6c7a5: Mounted from scott2srikanth/demo_aug
latest: digest: sha256:fa7d18888526ab7381ff1f5915829cbb78f734ad404c6de7917cf2311b104826 size: 3054
C:\Users\PC>
```

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6.7 Check the image in the docker hub.

The screenshot shows the Docker Hub interface. At the top, there's a search bar with 'hub.docker.com' and a navigation bar with 'Explore', 'Repositories', 'Organizations', 'Help', 'Upgrade', and a user profile. Below the search bar, a dropdown menu shows 'scott2srikant'. A red box highlights the repository 'scott2srikant / demo3.react' which was last pushed a few seconds ago. To the right of the repository list, there are promotional boxes for 'Create an Organization', 'DockerCon 2022', and 'DockerCon On-Demand'. A cursor is visible over a yellow circle at the bottom left of the page.

7. Docker image in Docker Hub Repository

This screenshot shows the detailed view of the 'demo3.react' repository under 'scott2srikant'. The top navigation bar includes 'General', 'Tags', 'Builds', 'Collaborators', 'Webhooks', and 'Settings'. The 'General' tab is selected. It features a section to 'Add a short description for this repository' with a note about its visibility. Below this is a card for the 'scott2srikant / demo3.react' repository, showing it has no description and was last pushed a few seconds ago. It includes a 'Docker commands' section with a command to push a new tag. The 'Tags and Scans' section lists a single tag 'latest' and vulnerability scanning status. The 'Automated Builds' section is currently disabled. A 'Readme' section is present with a note about repository descriptions. A cursor is visible over a yellow circle at the bottom left of the page.