

**Name: Patel Shivam S.**

**Enroll no: 21162101019**

**Sem: 5      Batch: 51      Branch: CBA**

**Sub: Microservices**

## **Practical 11**

**AIM:** To understand Basic Commands and concept of Containers and Images in Docker.

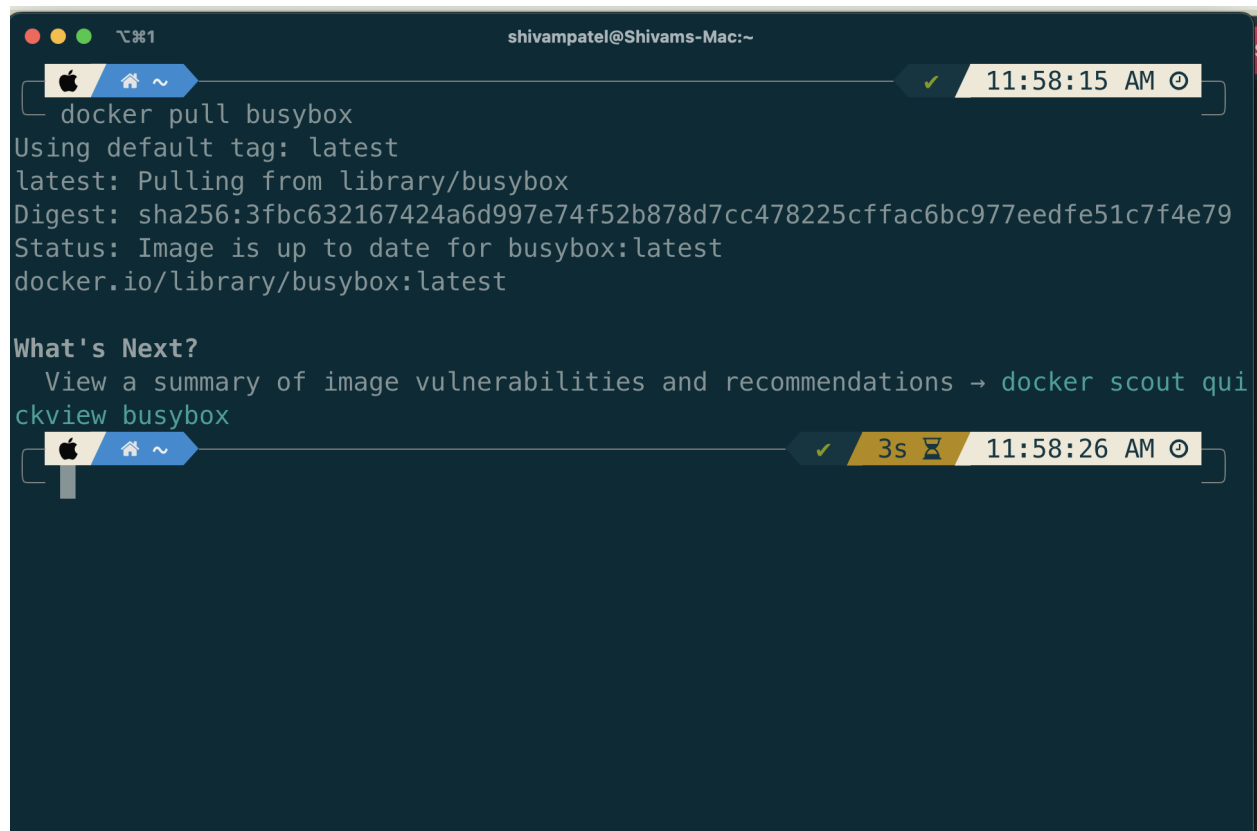
Your company has created set of codes for their applications on Android, and wants to run commands from a predefined Busybox container on the system, but your team does not know much about Docker. Show them how to do the following with the help of the BusyBox container itself.

1. Fetch the Busybox image from the Docker registry and save it to your system.
2. Run a Docker container based on this image.
3. Run a container from the image and enter the BusyBox shell
4. create an image to do something useful that you can share with others
5. Show all containers that are currently running.
6. Delete images that you no longer need.

**GITHUB LINK:**

[https://github.com/Shivam3783/microservice\\_practicals/tree/main/prac9](https://github.com/Shivam3783/microservice_practicals/tree/main/prac9)

## Practical 11.1: Fetch the Busybox image from the Docker registry and save it to your system.



```
shivampatel@Shivams-Mac:~  
[ Apple Home ~ ] 11:58:15 AM  
[ docker pull busybox  
Using default tag: latest  
latest: Pulling from library/busybox  
Digest: sha256:3fbc632167424a6d997e74f52b878d7cc478225cffac6bc977eedfe51c7f4e79  
Status: Image is up to date for busybox:latest  
docker.io/library/busybox:latest  
  
What's Next?  
View a summary of image vulnerabilities and recommendations → docker scout quickview busybox  
[ Apple Home ~ ] 3s 11:58:26 AM
```

## Practical 11.2. Run a Docker container based on this image.

```
See 'docker run --help'.
[Apple][Home][~] 125 x 12:00:03 PM
[Apple][Home][~] docker run busybox
[Apple][Home][~] ✓ 12:00:07 PM
```

Docker Desktop

Update to latest

Search for images, containers, volumes, extensions and more...

🔍

🔔

⚙️

shiva...

👤

DockerCon 2023: Our annual developer event is back - online & in person. [Learn more](#)

Containers

Images

Volumes

Dev Environments BETA

Docker Scout

Learning center

Extensions

Add Extensions

Another application changed your Desktop configurations. This may cause unexpected behaviour and errors. Re-apply configurations

Containers [Give feedback](#)

Container CPU usage ⓘ

Container memory usage ⓘ

Show charts ▾

No containers are running.

No containers are running.

🔍 Search

⏸️

🔵 Only show running containers

<input type="checkbox"/>	Name	Image	Status	CPU (%)	Port(s)	Last started	Actions
<input type="checkbox"/>	<div>pedantic_williams</div> <div>41491ae27e57</div>	busybox	Exited	N/A		37 seconds ago	<div>▶️ ⋮ 🗑️</div>

Showing 1 item

Walkthroughs

?

What is a container?

5 mins

1 FROM node

2 RUN mkdir -p

3 WORKDIR /app

4 COPY package

How do I run a container?

6 mins

[View more in the Learning center](#)

🐳

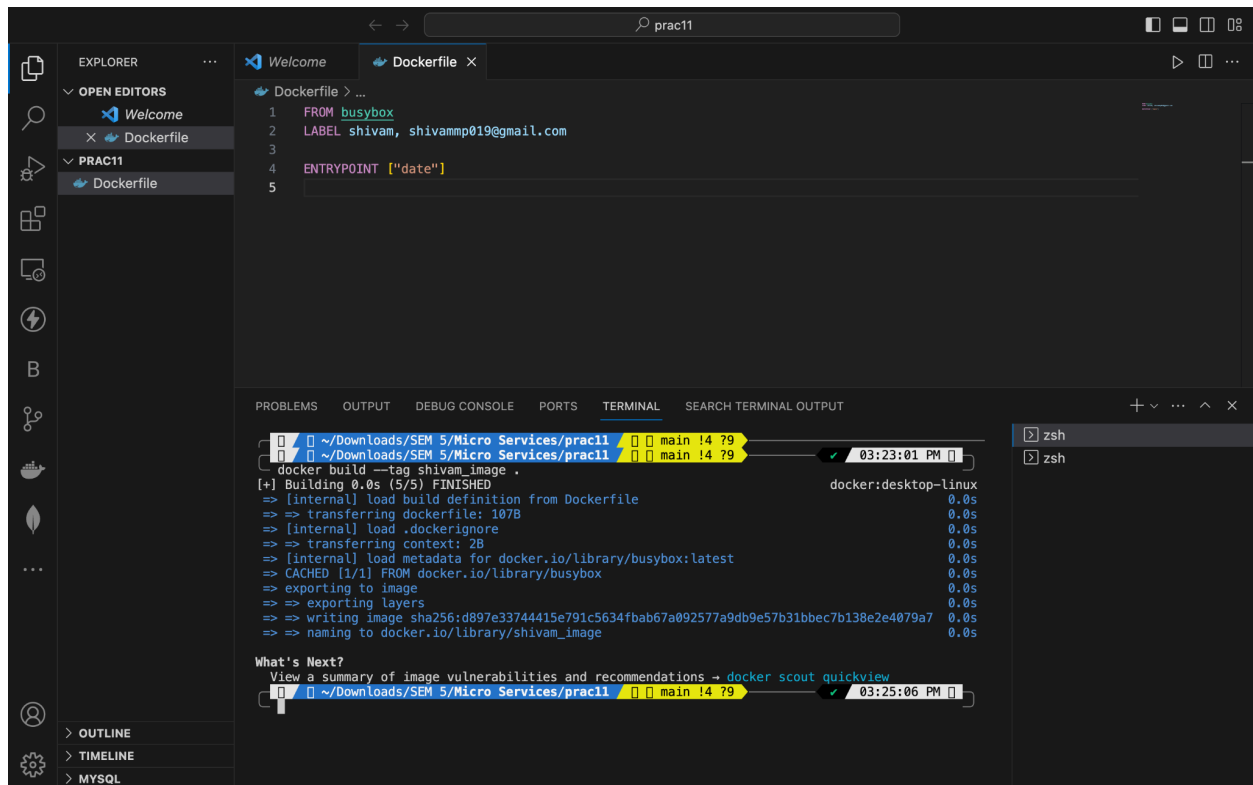
🔔

RAM 2.70 GB CPU 2.53% Disk 54.35 GB avail. of 62.67 GB Signed in v4.23.0 1

### Practical 11.3. Run a container from the image and enter the BusyBox shell

```
docker run -it --rm busybox
y/busyboxn/manifests/latest": received unexpected HTTP status: 500 Internal Serv
er Error.
See 'docker run --help'.
[Apple Home ~] 125 x 12:00:03 PM ☹
[Apple Home ~] docker run busybox
[Apple Home ~] 12:00:07 PM ☹
[Apple Home ~] docker run busybox ls
bin
dev
etc
home
lib
lib64
proc
root
sys
tmp
usr
var
[Apple Home ~] 12:03:15 PM ☹
[Apple Home ~] docker run -it --rm busybox
/ # ls
bin    etc    lib    proc   sys    usr
dev    home   lib64  root   tmp    var
/ #
```

## Practical 11.4. create an image to do something useful that you can share with others.



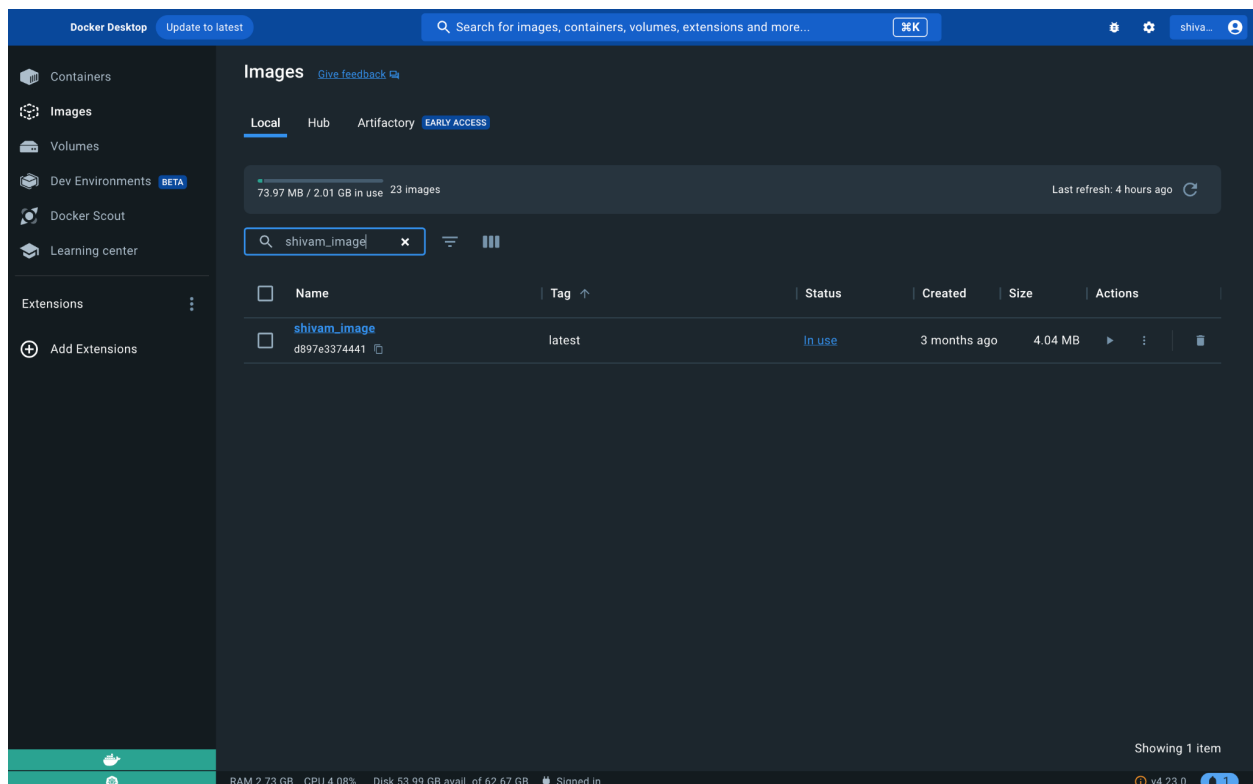
The screenshot shows the VS Code interface with a Dockerfile being edited. The Dockerfile contains the following content:

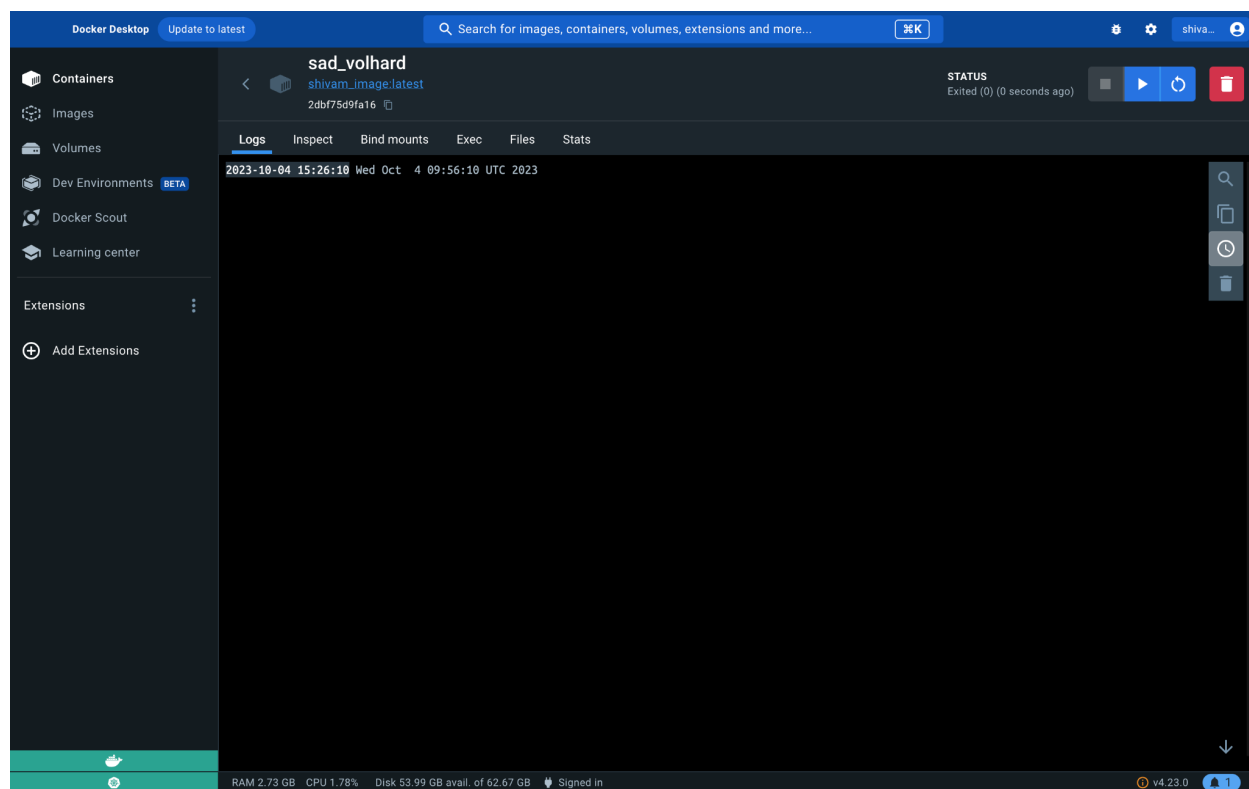
```
1 FROM busybox
2 LABEL shivam, shivamp019@gmail.com
3
4 ENTRYPOINT ["date"]
5
```

The terminal output shows the successful build of the image:

```
docker build --tag shivam_image .
[+] Building 0.0s (5/5) FINISHED
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 107B 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/busybox:latest 0.0s
=> CACHED [1/1] FROM docker.io/library/busybox 0.0s
=> exporting to image 0.0s
=> => exporting layers 0.0s
=> writing image sha256:d897e33744415e791c5634fbab67a092577a9db9e57b31bbec7b138e2e4079a7 0.0s
=> naming to docker.io/library/shivam_image 0.0s
```

Below the terminal output, there is a "What's Next?" section with a link to "View a summary of image vulnerabilities and recommendations → docker scout quickview".





## Practical 11.5. Show all containers that are currently running.

```
shivampatel@Shivams-Mac:~  
Last login: Wed Oct  4 11:39:26 on ttys001  
[~] 03:11:34 PM  
[~] docker ps  
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS  
8f1db37e9377   flask_docker   "python view.py"        2 hours ago   Up 36 seconds 0.0.0.0:5000->5000/tcp  
elegant_swanson  
[~] 03:11:37 PM
```

Docker Desktop v4.23.0

Search for images, containers, volumes, extensions and more...

Containers

Container CPU usage: 0.26% / 400% (4 cores allocated)

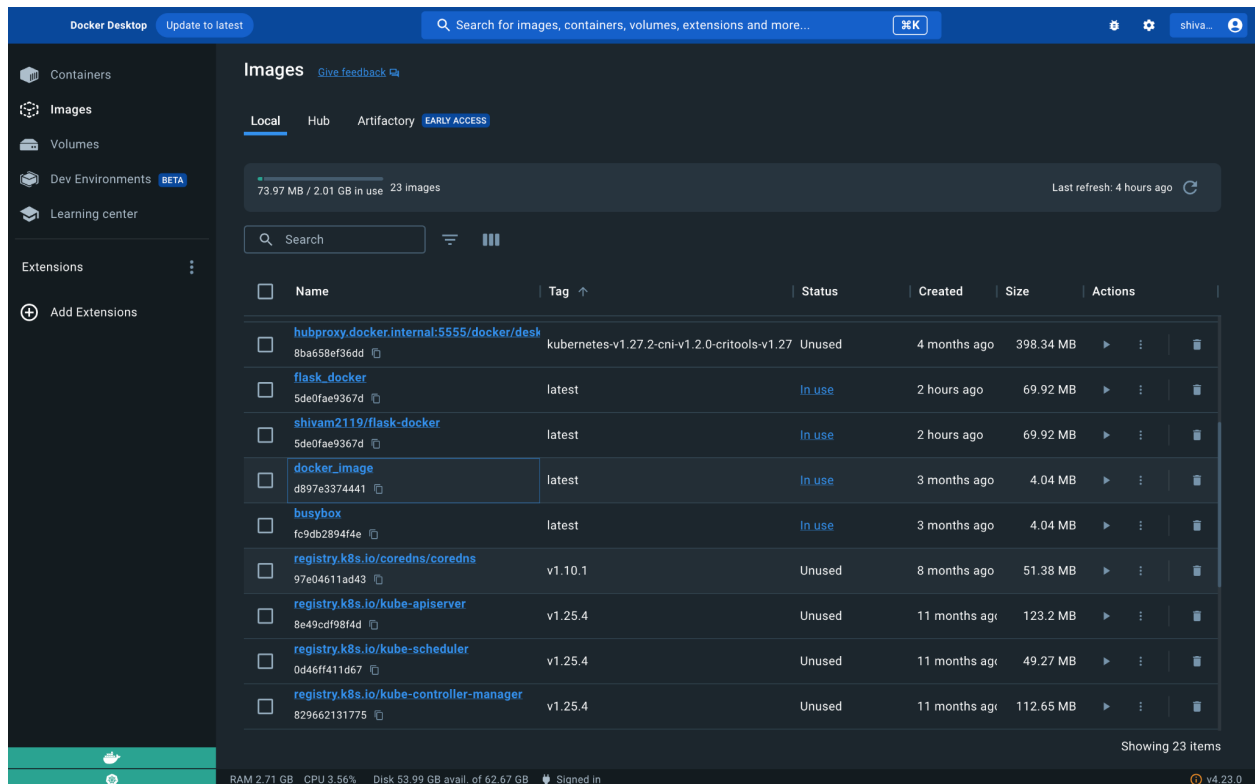
Container memory usage: 44.46MB / 7.49GB

Containers table:

Name	Image	Status	CPU (%)	Port(s)	Last started	Actions
elegant_swanson 8f1db37e9377	flask_docker	Running	0.26%	5000:5000	53 seconds ago	[Stop] [Restart] [Delete]
intelligent_davinci 6c7251a40a47	docker_image	Exited (1)	0%		3 hours ago	[Restart] [Delete]
happy_tu 5fe51ee858d6	docker_image:latest	Exited	0%		3 hours ago	[Restart] [Delete]
eager_yonath 6c352ae9fd78	docker_image:latest	Exited	0%		3 hours ago	[Restart] [Delete]
vigilant_khorana c0c498fd66b7	busybox	Exited	0%		3 hours ago	[Restart] [Delete]
pedantic_williams 41491ae27e57	busybox	Exited	0%		3 hours ago	[Restart] [Delete]

Selected 1 of 6

## Practical 11.6. Delete images that you no longer need.



The screenshot shows the Docker Desktop interface with the 'Images' tab selected. The left sidebar contains navigation options: Containers, Images, Volumes, Dev Environments (BETA), Learning center, Extensions, and Add Extensions. The main area displays a list of images under the 'Local' tab. The status bar at the bottom indicates RAM 2.71 GB, CPU 3.56%, and Disk 53.99 GB available of 62.67 GB.

Name	Tag	Status	Created	Size	Actions
hubproxy.docker.internal:5555/docker/desktop	kubernetes-v1.27.2-cni-v1.2.0-critools-v1.27	Unused	4 months ago	398.34 MB	
flask_docker	latest	In use	2 hours ago	69.92 MB	
shivam2119/flask-docker	latest	In use	2 hours ago	69.92 MB	
docker_image	latest	In use	3 months ago	4.04 MB	
busybox	latest	In use	3 months ago	4.04 MB	
registry.k8s.io/coredns/coredns	v1.10.1	Unused	8 months ago	51.38 MB	
registry.k8s.io/kube-apiserver	v1.25.4	Unused	11 months ago	123.2 MB	
registry.k8s.io/kube-scheduler	v1.25.4	Unused	11 months ago	49.27 MB	
registry.k8s.io/kube-controller-manager	v1.25.4	Unused	11 months ago	112.65 MB	

```
shivampatel@Shivams-Mac:~  
[03:18:10 PM] docker rmi d897e33744415e791c5634fbab67a092577a9db9e57b31bbec7b138e2e4079a7  
Error response from daemon: conflict: unable to delete d897e3374441 (must be forced) - image is being used by stopped container 6c352ae9fd78  
[03:18:21 PM] docker rmi -f d897e3374441  
Untagged: docker_image:latest  
Deleted: sha256:d897e33744415e791c5634fbab67a092577a9db9e57b31bbec7b138e2e4079a7  
[03:19:21 PM]
```



