

## *Intro to Docker:*

### *What is Docker?*

Docker is an open-source platform that allows for developing, running, testing, and deploying applications in an isolated environment called a container.

What is it?

Docker is an open platform for developing, shipping, and running applications.

What Does it do?

- *Docker Virtualizes the Operating System.*
- *Docker allows you to create containers that are like micro computers that are lightweight and fast.*
- *They are also isolated/separated from other containers, so that if one falters; it won't affect the others.*

*Why Docker?*

Benefits of Using Docker

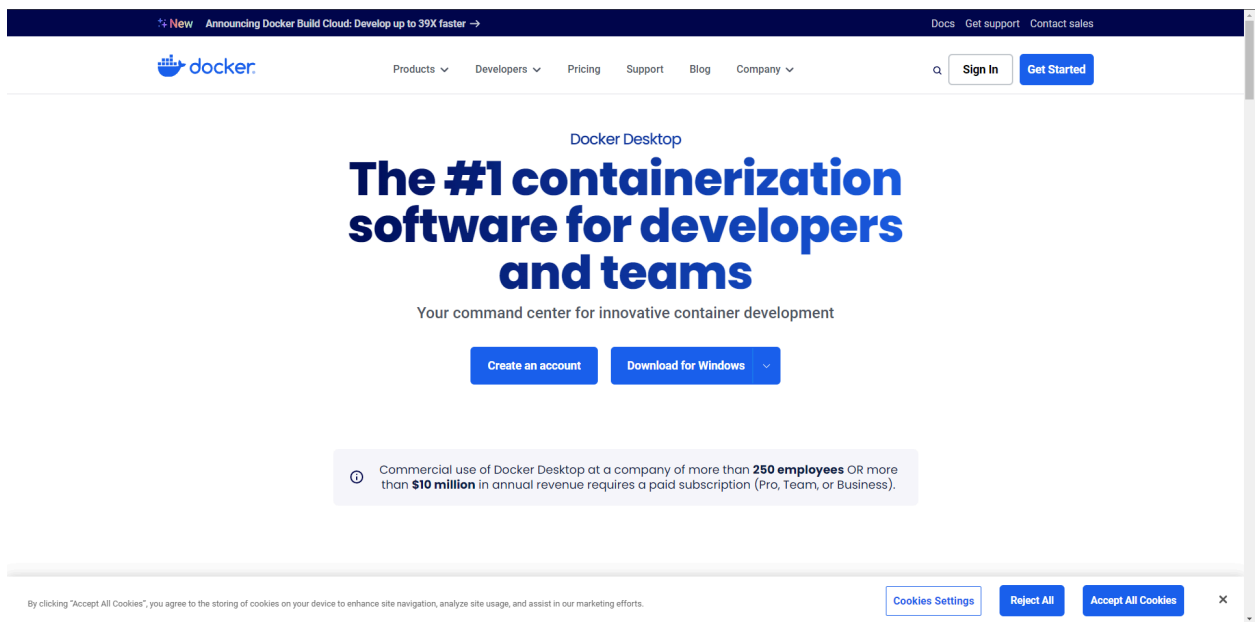
1. **Consistency and Portability:** Docker containers provide a consistent and portable environment that ensures applications run the same way across different platforms and environments.
2. **Isolation and Security:** Docker containers isolate applications and their dependencies, reducing the risk of conflicts and vulnerabilities.
3. **Scalability and Resource Efficiency:** Docker allows for easy scaling of applications by quickly creating and deploying multiple containers, while also optimizing resource usage.
4. **Fast and Reliable Deployment:** Docker enables fast and reliable deployment of applications, with the ability to roll back to previous versions if needed.
5. **Collaboration and Reproducibility:** Docker simplifies collaboration among development teams and ensures that applications can be reproduced exactly as they were during development and testing.

## Step 1: Installing Docker

### Method 1: Docker Desktop (Windows/Mac)

1. Go to the Docker website:

[<https://www.docker.com/products/docker-desktop>](<https://www.docker.com/products/docker-desktop>).

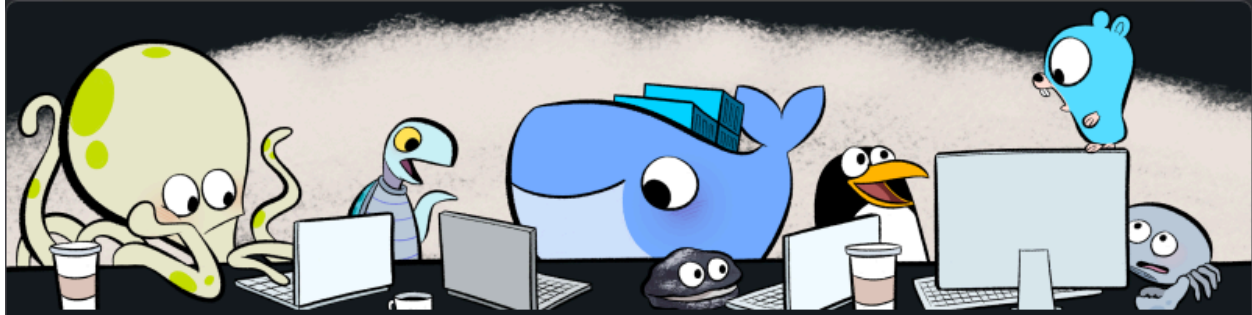


2. Download Docker Desktop for your operating system (Windows or Mac).

3. Double-click the downloaded installer to begin the installation process.

4. Follow the prompts in the installer to complete the installation.

5. Once installed, Docker Desktop should be running, usually indicated by an icon in the system tray or menu bar.



## Docker Subscription Service Agreement

By selecting **accept**, you agree to the [Subscription Service Agreement](#), the [Docker Data Processing Agreement](#), and the [Data Privacy Policy](#).

**Note:** Docker Desktop is free for small businesses (fewer than 250 employees AND less than \$10 million in annual revenue), personal use, education, and non-commercial open source projects. Otherwise, it requires a paid subscription for professional use. Paid subscriptions are also required for government entities.

[Read the FAQ to learn more.](#)

[View Full Terms](#)



**Accept**

**Close**



## Finish setting up Docker Desktop

version 4.27.2 (137060)

Complete the installation of Docker Desktop.

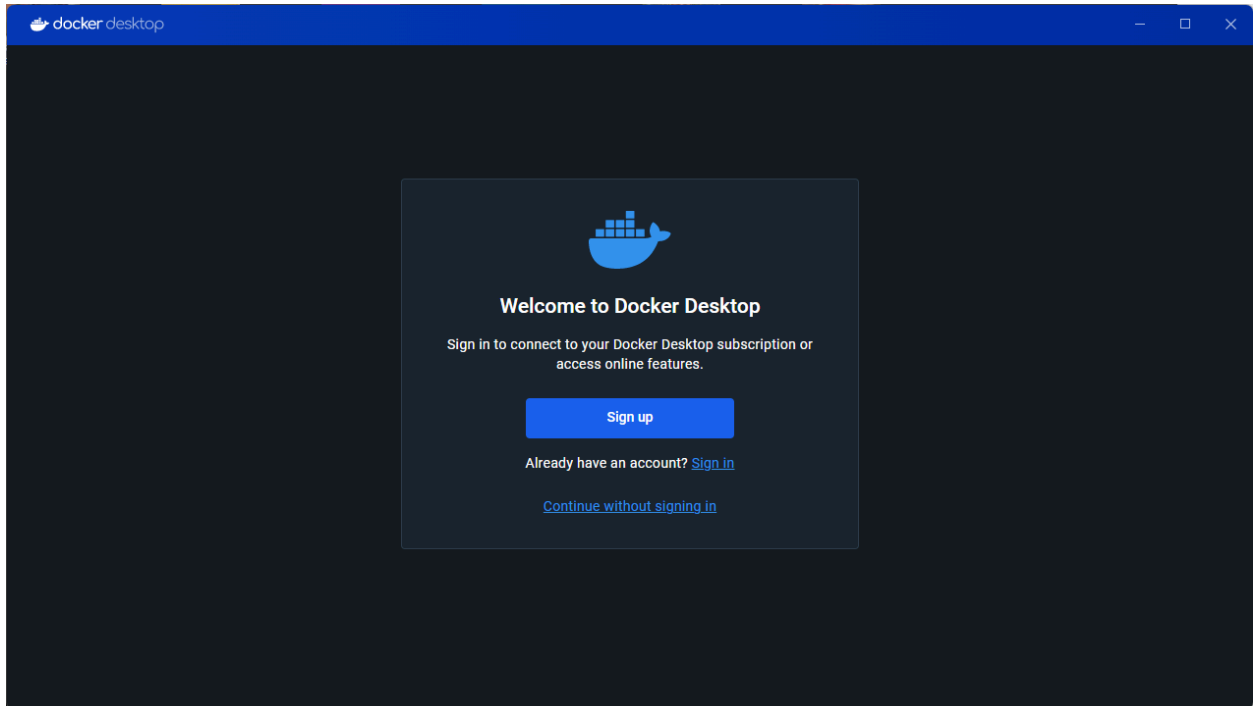
☒ Use recommended settings (requires administrator password)

Docker Desktop automatically sets the necessary configurations that work for most developers.

☐ Use advanced settings

You manually set your preferred configurations.

Finish



### Creating Containers:

1. Use command: `docker pull centos`

```
awalina — 80x24
~ — pwsh  ~ — -zsh  ~ — -zsh  ~  +
Last login: Sat Mar  2 07:07:23 on ttys001
awalina@Awasi-MBP ~ % docker pull centos
Using default tag: latest
latest: Pulling from library/centos
Digest: sha256:a27fd8080b517143cbbb9dfb7c8571c40d67d534bbdee55bd6c473f432b177
Status: Image is up to date for centos:latest
docker.io/library/centos:latest

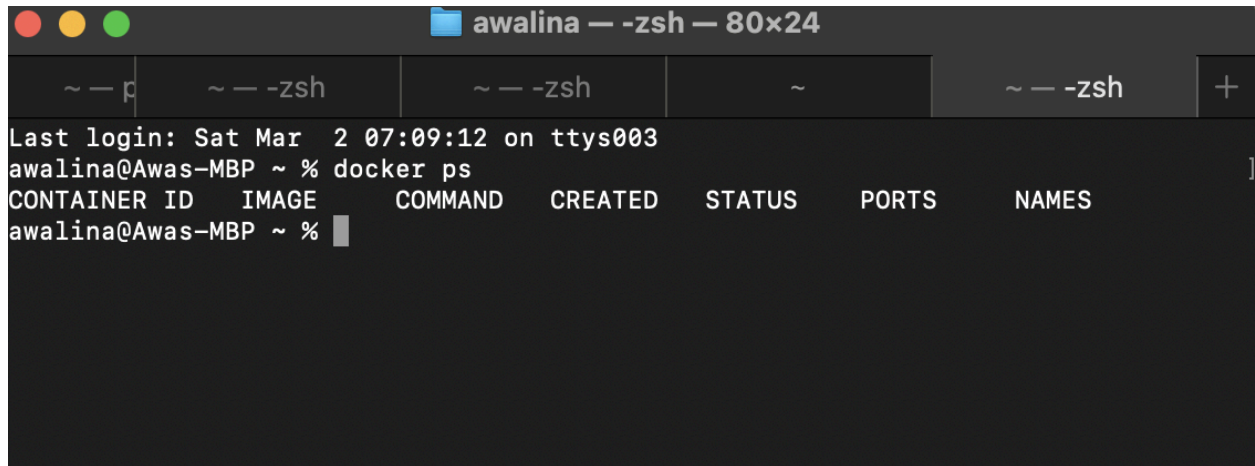
What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout qui
ckview centos
awalina@Awasi-MBP ~ % exit

Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

- 2.

- To run the new centos container, use the command: `docker run -d -t - -name (create name for container) centos`
- If you want to check your containers, use the command: `docker ps`



The image shows a terminal window titled "awalina — -zsh — 80x24". The terminal displays the following text:

```
Last login: Sat Mar  2 07:09:12 on ttys003
awalina@Awasi-MBP ~ % docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
awalina@Awasi-MBP ~ %
```

The terminal output shows the command `docker ps` and its output, which is a table with columns: CONTAINER ID, IMAGE, COMMAND, CREATED, STATUS, PORTS, and NAMES. The output shows one container with ID `awalina`, image `Awasi-MBP`, and command `~ %`.

- **You can go into your container with the command: `docker exec -it (container_name) bash`**
3. Ubuntu srv
- Use command: `docker pull ubuntu`

```

    ~ — p    ~ — -zsh    ~ — -zsh    ~    ~ — -zsh    +
Last login: Sat Mar  2 07:09:12 on ttys003
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
awalina@Awes-MBP ~ % docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
Digest: sha256:f9d633ff6640178c2d0525017174a688e2c1aef28f0a0130b26bd5554491f0da
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview ubuntu
awalina@Awes-MBP ~ %
```

- To run the new centos container, use the command: `docker run -d -t -name (container_name) ubuntu`
- If you want to check your containers, use the command: `docker ps`
- You can go into your container with the command: `docker exec -it (container_name) bash`

```

    ~ — -z    ~ — -zsh    ...    ~ — -zsh    ...    ~ — -zsh    ...li + sudo    ...er bash    +
Last login: Sun Mar  3 17:52:15 on ttys005
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
1c49ffedc0fb   ubuntu    "/bin/bash"   7 minutes ago   Up 7 minutes           beautiful_snyder
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
1c49ffedc0fb   ubuntu    "/bin/bash"   7 hours ago   Up 7 hours           beautiful_snyder
awalina@Awes-MBP ~ % docker exec -it beautiful_snyder bash
root@1c49ffedc0fb:/#
```

#### 4. Linux(Alpine)

- Use command: `docker pull alpine`



```

Last login: Sun Mar  3 18:01:35 on ttys006
awalina@Awes-MBP ~ % docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
Digest: sha256:c5b1261d6d3e43071626931fc004f70149baeba2c8ec672bd4f27761f8e1ad6b
Status: Image is up to date for alpine:latest
docker.io/library/alpine:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview alpine
awalina@Awes-MBP ~ %
```

- To run the new centos container, use the command: `docker run -d -t --name (container_name) alpine`
- If you want to check your containers, use the command: `docker ps`

```

Last login: Sun Mar  3 18:01:35 on ttys006
awalina@Awes-MBP ~ % docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
Digest: sha256:c5b1261d6d3e43071626931fc004f70149baeba2c8ec672bd4f27761f8e1ad6b
Status: Image is up to date for alpine:latest
docker.io/library/alpine:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview alpine
awalina@Awes-MBP ~ % docker run -d -t --name e5c250379d4f alpine
427a76f0a7a99a972b070a7d53c711ce46c249cd414e9a985cd30896e4408f8b
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
427a76f0a7a9   alpine    "/bin/sh" 20 seconds ago  Up 18 seconds    e5c250379d4f
awalina@Awes-MBP ~ %
```

- You can go into your container with the command: `docker exec -it (container_name) sh`



```

    ~ — -z  ~ — -zsh ...  .../ — -zsh ...  .../ — -zsh  ~ — -zsh  ~ — -zsh  +
Last login: Mon Mar  4 00:55:29 on ttys007
awalina@Awes-MBP ~ % docker pull centos
Using default tag: latest
latest: Pulling from library/centos
Digest: sha256:a27fd8080b517143cbbbab9dfb7c8571c40d67d534bbdee55bd6c473f432b177
Status: Image is up to date for centos:latest
docker.io/library/centos:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview centos
awalina@Awes-MBP ~ % docker run -d -t --name 5d0da3dc9764 centos
368d721f33d0acc3e12085acd14f44625b62ca901475455c0424fbc1639062de
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
368d721f33d0   centos    "/bin/bash"   15 seconds ago   Up 14 seconds   5d0da3dc9764
427a76f0a7a9   alpine    "/bin/sh"     9 minutes ago    Up 9 minutes    e5c250379d4f
awalina@Awes-MBP ~ %
```

## 5. Running Containers

```

    ~ — -z  .../ — -zsh ...  .../ — -zsh  ~ — -zsh  ~ — -zsh  ~ — -zsh  +
Status: Image is up to date for centos:latest
docker.io/library/centos:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview centos
awalina@Awes-MBP ~ % docker run -d -t --name 5d0da3dc9764 centos
368d721f33d0acc3e12085acd14f44625b62ca901475455c0424fbc1639062de
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
368d721f33d0   centos    "/bin/bash"   15 seconds ago   Up 14 seconds   5d0da3dc9764
427a76f0a7a9   alpine    "/bin/sh"     9 minutes ago    Up 9 minutes    e5c250379d4f
awalina@Awes-MBP ~ % docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
Digest: sha256:f9d633ff6640178c2d0525017174a688e2c1aef28f0a0130b26bd5554491f0da
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview ubuntu
awalina@Awes-MBP ~ % docker run -d -t --name 3db8720ecbf5 ubuntu
44870f725d256f6bc5fc5046929296b31aa0c9cb34124089323f149dd8951485
awalina@Awes-MBP ~ % docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
44870f725d25   ubuntu    "/bin/bash"   37 seconds ago   Up 37 seconds   3db8720ecbf5
368d721f33d0   centos    "/bin/bash"   6 minutes ago    Up 6 minutes    5d0da3dc9764
427a76f0a7a9   alpine    "/bin/sh"     16 minutes ago   Up 16 minutes    e5c250379d4f
awalina@Awes-MBP ~ %
```