

# Docker Learning Journey – LinkedIn Carousel

## Error: Running Docker Without sudo

```
shiva@DESKTOP-7ONVSH5: ~  
update-alternatives: using /usr/sbin/iptables-nft to provide /usr/sbin/iptables (iptables) in auto mode  
update-alternatives: using /usr/sbin/ip6tables-nft to provide /usr/sbin/ip6tables (ip6tables) in auto mode  
update-alternatives: using /usr/sbin/arptables-nft to provide /usr/sbin/arptables (arptables) in auto mode  
update-alternatives: using /usr/sbin/ebtables-nft to provide /usr/sbin/ebtables (ebtables) in auto mode  
Setting up docker.io (28.2.2-0ubuntu1~24.04.1) ...  
info: Selecting GID from range 100 to 999 ...  
info: Adding group 'docker' (GID 108) ...  
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /usr/lib/systemd/system/docker.service.  
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /usr/lib/systemd/system/docker.socket.  
Setting up dnsmasq-base (2.90-2ubuntu0.1) ...  
Setting up ubuntu-fan (0.12.16+24.04.1) ...  
Created symlink /etc/systemd/system/multi-user.target.wants/ubuntu-fan.service → /usr/lib/systemd/system/ubuntu-fan.service.  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for dbus (1.14.10-4ubuntu4.1) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.6) ...  
shiva@DESKTOP-7ONVSH5:~$ docker --version  
Docker version 28.2.2, build 28.2.2-0ubuntu1~24.04.1  
shiva@DESKTOP-7ONVSH5:~$ docker run hello world  
docker: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Head "http://%2Fvar%2Frun%2Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied  
  
Run 'docker run --help' for more information  
shiva@DESKTOP-7ONVSH5:~$
```

## Success: Running Docker With sudo

```
shiva@DESKTOP-70NVSH5: ~  
Run 'docker run --help' for more information  
shiva@DESKTOP-70NVSH5:~$ docker run hello-world  
docker: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Head "http://%2Fvar%2Frun%2Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied  
  
Run 'docker run --help' for more information  
shiva@DESKTOP-70NVSH5:~$ sudo docker run hello-world  
Unable to find image 'hello-world:latest' locally  
latest: Pulling from library/hello-world  
17eec7bbc9d7: Pull complete  
Digest: sha256:f7931603f70e13dbd844253370742c4fc4202d290c80442b2e68706d8f33ce26  
Status: Downloaded newer image for hello-world:latest  
  
Hello from Docker!  
This message shows that your installation appears to be working correctly.  
  
To generate this message, Docker took the following steps:  
1. The Docker client contacted the Docker daemon.  
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.  
   (amd64)  
3. The Docker daemon created a new container from that image which runs the  
   executable that produces the output you are currently reading.  
4. The Docker daemon streamed that output to the Docker client, which sent it  
   to your terminal.  
  
To try something more ambitious, you can run an Ubuntu container with:  
$ docker run -it ubuntu bash  
  
Share images, automate workflows, and more with a free Docker ID:  
https://hub.docker.com/  
  
For more examples and ideas, visit:
```

## Permission Denied Explanation

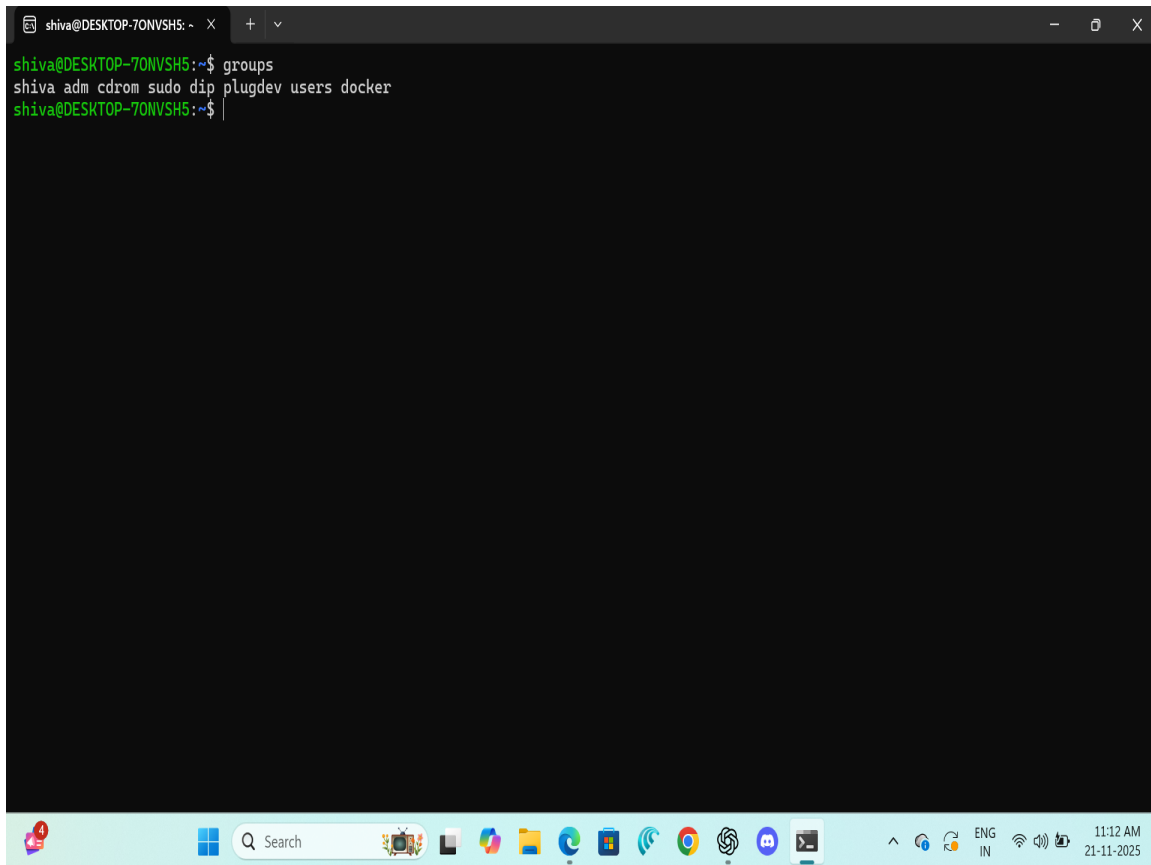
```
shiva@DESKTOP-70NVSH5: ~ X + v - [ ] X
shiva@DESKTOP-70NVSH5:~$ docker run hello-world
docker: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Head "http://%2Fvar%2Frun%2Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied

Run 'docker run --help' for more information
shiva@DESKTOP-70NVSH5:~$ sudo usermod -aG docker $shiva
Usage: usermod [options] LOGIN

Options:
  -a, --append                append the user to the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -b, --badname               allow bad names
  -c, --comment COMMENT      new value of the GECOS field
  -d, --home HOME_DIR        new home directory for the user account
  -e, --expiredate EXPIRE_DATE set account expiration date to EXPIRE_DATE
  -f, --inactive INACTIVE    set password inactive after expiration
                              to INACTIVE
  -g, --gid GROUP             force use GROUP as new primary group
  -G, --groups GROUPS        new list of supplementary GROUPS
  -h, --help                  display this help message and exit
  -l, --login NEW_LOGIN      new value of the login name
  -L, --lock                  lock the user account
  -m, --move-home             move contents of the home directory to the
                              new location (use only with -d)
  -o, --non-unique            allow using duplicate (non-unique) UID
  -p, --password PASSWORD    use encrypted password for the new password
  -P, --prefix PREFIX_DIR    prefix directory where are located the /etc/* files
  -r, --remove                remove the user from only the supplemental GROUPS
                              mentioned by the -G option without removing
                              the user from other groups
  -R, --root CHROOT_DIR      directory to chroot into
  -s, --shell SHELL          new login shell for the user account
```

Windows taskbar: Search, File Explorer, Edge, Docker, VS Code, Telegram, Discord, Task View, System tray (Network, Volume, ENG IN, 11:09 AM, 21-11-2025)

## Inspecting docker.sock Permissions

A terminal window titled 'shiva@DESKTOP-70NVSH5: ~' with standard window controls. The terminal shows the command 'groups' being executed, resulting in the output 'shiva adm cdrom sudo dip plugdev users docker'. The prompt 'shiva@DESKTOP-70NVSH5:~\$' is visible at the end of the line. The terminal is set against a black background with green text. Below the terminal is a Windows taskbar with various application icons and system status indicators on the right, including the time '11:12 AM' and date '21-11-2025'.

```
shiva@DESKTOP-70NVSH5:~$ groups
shiva adm cdrom sudo dip plugdev users docker
shiva@DESKTOP-70NVSH5:~$
```

## User Added to Docker Group

(Image missing: /mnt/data/c2ba46ae-8593-4c54-9c12-0f9aec479018.png)


## Docker Working Without sudo

```
shiva@DESKTOP-70NVSH5: ~ X + v - [ ] X
de57a609c9d5: Pull complete
Digest: sha256:553f64aecd31b5bf944521731cd70e35da4faed96b2b7548a3d8e2598c52a42
Status: Downloaded newer image for nginx:latest
2bbace19dd82022dbecc3056c35909df71a0f7368554fbd66080b8c660f7b77
shiva@DESKTOP-70NVSH5:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS                               NAMES
2bbace19dd82   nginx     "/docker-entrypoint..." 8 seconds ago Up 7 seconds 0.0.0.0:8080->80/tcp, [::]:8080->80/tcp   web
shiva@DESKTOP-70NVSH5:~$ mkdir docker-custom-nginx
shiva@DESKTOP-70NVSH5:~$ cd docker-custom-nginx
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ echo "<h1> shiva this my first docker image </h1>" > index.html
> ^C
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ echo "<h1> Hello shiva! This is your first custom docker image </h1>" > index.html
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ vim Dockerfile
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ docker build -t shiva-custom-nginx
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
             Install the buildx component to build images with BuildKit:
             https://docs.docker.com/go/buildx/

docker: 'docker build' requires 1 argument

Usage: docker build [OPTIONS] PATH | URL | -

Run 'docker build --help' for more information
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ |
```



## Building Custom Dockerfile

```
shiva@DESKTOP-70NVSH5: ~ X + v
de57a609c9d5: Pull complete
Digest: sha256:553f64aecd31b5bf944521731cd70e35da4faed96b2b7548a3d8e2598c52a42
Status: Downloaded newer image for nginx:latest
2bbace19dd82022dbec3056c35909df71a0f7368554fbd66080b8c660f7b77
shiva@DESKTOP-70NVSH5:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                               NAMES
2bbace19dd82   nginx     "/docker-entrypoint..." 8 seconds ago  Up 7 seconds  0.0.0.0:8080->80/tcp, [::]:8080->80/tcp  web
shiva@DESKTOP-70NVSH5:~$ mkdir docker-custom-nginx
shiva@DESKTOP-70NVSH5:~$ cd docker-custom-nginx
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ echo "<h1> shiva this my first docker image </h1>" > index.html
> ^C
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ echo "<h1> Hello shiva! This is your first custom docker image </h1>" > index.html
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ vim Dockerfile
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ docker build -t shiva-custom-nginx
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
             Install the buildx component to build images with BuildKit:
             https://docs.docker.com/go/buildx/

docker: 'docker build' requires 1 argument

Usage: docker build [OPTIONS] PATH | URL | -

Run 'docker build --help' for more information
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ docker build -t shiva-custom-nginx .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
             Install the buildx component to build images with BuildKit:
             https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  3.072kB
Error response from daemon: dockerfile parse error on line 1: FROM requires either one or three arguments
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$
```

## Fixing Dockerfile Issues

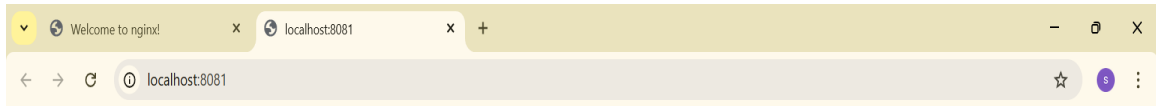
```
shiva@DESKTOP-70NVSH5: ~ X + v - [ ] X

Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/

Sending build context to Docker daemon 3.072kB
Error response from daemon: dockerfile parse error on line 1: FROM requires either one or three arguments
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ cat index.html
<h1> Hello shiva! This is your first custom docker image </h1>
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ vi index.html
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ cat Dockerfile
FROM nginx: latest
COPY index.html /usr/share/nginx/html/index.html
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ vi Dockerfile
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ cat Dockerfile
FROM nginx:latest
COPY index.html /usr/share/nginx/html/index.html
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ docker build -t shi
va-custom-nginx .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/

Sending build context to Docker daemon 3.072kB
Step 1/2 : FROM nginx:latest
--> 60adc2e137e7
Step 2/2 : COPY index.html /usr/share/nginx/html/index.html
--> ca3fb7dd6750
Successfully built ca3fb7dd6750
Successfully tagged shiva-custom-nginx:latest
shiva@DESKTOP-70NVSH5:~/docker-custom-nginx$ |
```

## Running Custom Nginx Image Successfully



**Hello shiva! This is your first custom docker image**

