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## DevOps Shack

# DOCKER TROUBLESHOOTING GUIDE

### 1. Docker Daemon Not Running

Error:

Cannot connect to the Docker daemon at  
unix:///var/run/docker.sock. Is the docker  
daemon running?

Solution:

Start the Docker daemon:

```
sudo systemctl start docker
```

Enable it at boot:

```
sudo systemctl enable docker
```



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If Docker is already running but still shows this error, restart it:

```
sudo systemctl restart docker
```

## 2. Permission Denied When Running Docker

Error:

```
Got permission denied while trying to connect  
to the Docker daemon socket
```

Solution:

Add your user to the **docker** group:

```
sudo usermod -aG docker $USER
```

Restart your session:

```
newgrp docker
```

- If issues persist, restart Docker.

### 3. Docker Fails to Pull Image

Error:

Error response from daemon: Get  
`https://registry-1.docker.io/v2/`: net/http:  
request canceled

Solution:

- Check your internet connection.

If using a corporate proxy, configure Docker with proxy settings in  
`/etc/systemd/system/docker.service.d/http-pro`  
`xy.conf`:

ini

`[Service]`

`Environment="HTTP_PROXY=http://proxy.example.com:80/"`

Restart Docker:

`sudo systemctl daemon-reload`



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```
sudo systemctl restart docker
```

#### 4. Docker Container Exits Immediately

Error:

```
Exited (0)
```

Solution:

Run with **-it** to keep the container interactive:

```
docker run -it ubuntu
```

- If running a script, ensure the script doesn't exit immediately.

#### 5. Port is Already in Use

Error:

```
Error response from daemon: driver failed  
programming external connectivity on endpoint
```



Solution:

Find the process using the port:

```
sudo lsof -i :<PORT>
```

Kill the process:

```
sudo kill -9 <PID>
```

- Restart the container.

## 6. Container is Not Accessible from Host

Error:

Cannot reach the container from the host

Solution:

Ensure the port is mapped correctly:

```
docker run -p 8080:80 nginx
```



Check firewall settings:

```
sudo ufw allow 8080
```

## 7. Docker Build Fails Due to Permissions

Error:

```
EACCES: permission denied
```

Solution:

Use **--no-cache** during build:

```
docker build --no-cache -t myimage .
```

Ensure correct permissions:

```
sudo chmod -R 755 .
```



## 8. Docker Out of Space

Error:

**No space left on device**

Solution:

**Clean unused Docker objects:**

**`docker system prune -a`**

- Increase disk space.

## 9. Docker Container Logs Are Too Large

Error:

**Log files consuming too much space**

Solution:

**Limit log file size in `/etc/docker/daemon.json`:**

**Json**



```
{  
  "log-driver": "json-file",  
  "log-opts": {  
    "max-size": "10m",  
    "max-file": "3"  
  }  
}
```

**Restart Docker:**

```
sudo systemctl restart docker
```

## 10. Container Fails to Restart

**Error:**

**Container keeps crashing on restart**

**Solution:**

**Check logs:**

```
docker logs <container_id>
```

**Run in interactive mode for debugging:**





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```
docker run -it --entrypoint /bin/ mycontainer
```

## 11. Docker Network Not Found

Error:

```
Error response from daemon: network not found
```

Solution:

List networks:

```
docker network ls
```

Recreate the network:

```
docker network create mynetwork
```

## 12. Cannot Stop a Running Container

Error:

```
Container does not stop
```

Solution:



Force stop:

```
docker kill <container_id>
```

If that fails, restart Docker:

```
sudo systemctl restart docker
```

### 13. Docker Compose Not Found

Error:

```
docker-compose: command not found
```

Solution:

Install Docker Compose:

```
sudo apt install docker-compose -y
```

### 14. Container Can't Connect to Internet

Error:

```
Network unreachable
```



Solution:

Restart the Docker network:

```
docker network disconnect bridge  
<container_id>  
docker network connect bridge <container_id>
```

Check if DNS settings are correct in

`/etc/docker/daemon.json`:

json

```
{  
  "dns": [ "8.8.8.8", "8.8.4.4" ]  
}
```

## 15. Docker Image Too Large

Error:

Image size too large

Solution:



- Reduce layers in Dockerfile.

Use **alpine**-based images:

**FROM alpine**

## 16. Docker Build Fails Due to Proxy Issues

Error:

**Failed to fetch https://some-url.com**

Solution:

If behind a proxy, set the proxy in Dockerfile:

Dockerfile

```
ENV http_proxy=http://proxy.example.com:80/  
ENV https_proxy=http://proxy.example.com:80/
```

Or configure system-wide proxy settings:

**export**

**HTTP\_PROXY=<http://proxy.example.com:80/>**



```
export  
HTTPS_PROXY=http://proxy.example.com:80/
```

## 17. Container Cannot Resolve Hostnames

Error:

Temporary failure in name resolution

Solution:

Check network settings:

```
docker network inspect bridge
```

Add a DNS server in `/etc/docker/daemon.json`:

```
json
```

```
{  
  "dns": [ "8.8.8.8", "8.8.4.4" ]  
}
```

Restart Docker:

```
sudo systemctl restart docker
```

## 18. Error Binding Ports on Mac



Error:

**Bind for 0.0.0.0:80 failed: port is already allocated**

Solution:

Find the process using the port:

**lsof -i :80**

Kill the process:

**kill -9 <PID>**

## 19. Dockerfile COPY Command Fails

Error:

**COPY failed: no source files were found**

Solution:

- Ensure files exist relative to Dockerfile.

Use absolute paths:

Dockerfile



```
COPY ./myfile /app/myfile
```

## 20. Cannot Remove Docker Image

Error:

Error response from daemon: conflict: unable to delete

Solution:

Find and remove dependent containers:

```
docker ps -a | grep <image_id>
docker rm <container_id>
```

Then remove the image:

```
docker rmi <image_id>
```

## 21. High CPU Usage in Docker Containers

Solution:

Limit CPU usage:



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```
docker run --cpus=".5" mycontainer
```

## 22. Docker Not Recognizing Environment Variables

Error:

**Variable not found**

Solution:

Pass environment variables explicitly:

```
docker run -e MYVAR=value myimage
```

Use **ENV** in Dockerfile:

Dockerfile

```
ENV MYVAR=value
```

## 23. Docker Container Exceeds Memory Limits

Solution:

Limit memory usage:

```
docker run --memory="256m" mycontainer
```





## 24. Container Fails to Start Due to Missing File

Error:

**No such file or directory**

Solution:

Verify volume mounts:

**docker inspect <container\_id>**

- Ensure the file exists in the correct directory.

## 25. Cannot Attach to Running Container

Error:

**You cannot attach to a non-running container**

Solution:

Ensure the container is running:

**docker start <container\_id>**



Attach again:

```
docker attach <container_id>
```

## 26. Docker Logs Not owing Anything

Solution:

Ensure logging is enabled:

**json**

```
{  
  "log-driver": "json-file"  
}
```

Restart Docker:

```
sudo systemctl restart docker
```

## 27. Containers Not Communicating in Docker Compose

Solution:

Ensure services are in the same network:

**Networks:**



```
mynetwork:
services:
  service1:
    networks:
      - mynetwork
  service2:
    networks:
      - mynetwork
```

## 28. Docker Container Restart Loop

Error:

**Restarting (1) 3 seconds ago**

Solution:

Check logs:

**docker logs <container\_id>**

- Fix application issues.

## 29. Docker Image Layer Caching Issues



Solution:

Force rebuild:

```
docker build --no-cache -t myimage .
```

### 30. Docker Volume Not Mounting

Solution:

Ensure volume exists:

```
docker volume ls
```

Create a new volume if necessary:

```
docker volume create myvolume
```

### 31. Docker Container Cannot Write to Mounted Volume

Error:

```
Permission denied
```

Solution:

Ensure correct permissions:

```
sudo chmod -R 777 /my/host/path
```



Use **--user** to match the container user:

```
docker run --user $(id -u):$(id -g) -v  
/my/host/path:/container/path myimage
```

### 32. Dockerfile RUN Command Fails with 'Command Not Found'

Error:

```
/bin/: mycommand: not found
```

Solution:

Ensure the command is installed:

Dockerfile

```
RUN apt-get update && apt-get install -y  
mypackage
```

### 33. Dockerfile ENTRYPOINT or CMD Not Executing

Error:

```
exec: "mycommand": executable file not found  
in $PATH
```



Solution:

Ensure the script has executable permissions:

Dockerfile

```
RUN chmod +x /my/script.
```

Specify ell execution:

Dockerfile

```
CMD ["", "-c", "/my/script."]
```

## 34. Docker Compose 'Service Not Found' Error

Error:

```
Service "myservice" not found
```

Solution:

Ensure correct indentation in `docker-compose.yml`:

yaml

```
services:
```

```
  Myservice:
```



`image: myimage`

- Use `docker-compose up -d --build` to rebuild.

### 35. 'OCI Runtime Permission Denied' Error

Error:

`OCI runtime permission denied`

Solution:

If running as a non-root user, add `--privileged`:

`docker run --privileged myimage`

### 36. Cannot Connect to MySQL/PostgreSQL Container

Error:

`Access denied for user 'root'@'localhost'`

Solution:

Ensure the correct environment variables:

`docker run -e`

`MYSQL_ROOT_PASSWORD=mysecretpassword mysql`



### 37. Docker Volume Data Lost After Restart

Solution:

Use named volumes:

```
docker run -v myvolume:/data myimage
```

- Ensure volume is not removed with **docker volume prune**.

### 38. Dockerfile COPY Ignores Some Files

Solution:

Check **.dockerignore**:

```
node_modules/  
logs/
```

### 39. Docker Build Hangs Indefinitely

Solution:

Run with debug logs:

```
DOCKER_BUILDKIT=1 docker build  
--progress=plain -t myimage .
```





## 40. Docker Compose Up Fails with 'No Such File or Directory'

Solution:

Ensure the file exists relative to the compose file:

yaml

volumes:

- ./localpath:/containerpath

## 41. 'Exec Format Error' When Running a Container

Error:

```
standard_init_linux.go:228: exec user process  
caused "exec format error"
```

Solution:

Ensure the correct architecture:

```
uname -m
```

Rebuild for the correct platform:

```
docker build --platform linux/amd64 -t  
myimage .
```



## 42. Docker Hub Rate Limits Reached

Error:

CSS

**Too many requests to Docker Hub**

Solution:

**Authenticate with Docker Hub:**

**docker login**

- Use an alternate registry.

## 43. 'Mounts Denied' on macOS

Error:

**Mounts denied: The path is not a directory from the host**

Solution:

- Add the path to Docker Desktop > Settings > Resources > File sharing.

## 44. 'Cannot Start Service' in Docker Compose

Solution:



Ensure port is not in use:

```
sudo lsof -i :<PORT>
```

#### 45. Docker Build Context Too Large

Solution:

Reduce the build context using **.dockerignore**:

```
.git/  
node_modules/
```

#### 46. Container Crashes with 'Segmentation Fault'

Solution:

Check for memory leaks or out-of-memory issues:

```
dmesg | grep -i OOM
```

#### 47. 'Invalid Reference Format' on Docker Pull

Error:

```
invalid reference format
```

Solution:

Ensure the correct image format:



---

```
docker pull myimage:latest
```

#### 48. 'Cannot Delete Docker Volume'

Solution:

Ensure no containers are using it:

```
docker ps -a | grep myvolume
```

Then remove:

```
docker volume rm myvolume
```

#### 49. 'Image Not Found' When Running Container

Solution:

Pull the correct image:

```
docker pull myimage:latest
```

#### 50. Container Restart Policy Not Working

Solution:

- Use `--restart=always`:

```
docker run --restart=always myimage
```