
DevOps Shack

50 Docker Errors & Resolutions

1. Docker Daemon Not Running

Error: Cannot connect to the Docker daemon. Is the docker daemon running on this host?

Cause: Docker daemon is not running.

Resolution:

- Start the Docker service:

```
sudo systemctl start docker
```

- Verify the status:

```
sudo systemctl status docker
```

2. Docker Permission Denied

Error: permission denied while trying to connect to the Docker daemon socket

Cause: User not added to the docker group.

Resolution:

- Add the user to the Docker group:

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

- Log out and log back in to apply changes.
-

3. Port Already in Use

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

Cause: Port conflict with another process.

Resolution:

- Identify the process using the port:

```
sudo netstat -tuln | grep 80
```

- Stop the conflicting service or use a different port in the Docker run command:

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



4. Image Pull Error

Error: Error response from daemon: pull access denied

Cause: Image not found or requires authentication.

Resolution:

- Verify the image name and tag.
- Log in to Docker Hub:

```
docker login
```

5. Cannot Remove Container

Error: Error response from daemon: container is in use by a running process

Cause: Container is still running.

Resolution:

- Stop and remove the container:

```
docker stop <container_id>
```

```
docker rm <container_id>
```

6. Volume Not Mounting

Error: Error mounting volume: invalid mount path

Cause: Incorrect volume path.

Resolution:

- Ensure the source directory exists on the host.
- Use absolute paths for volume mounts:

```
docker run -v /host/path:/container/path ...
```

7. Docker Build Context Too Large

Error: Error: file size limit exceeded

Cause: Large files or directories included in the build context.

Resolution:

- Use a .dockerignore file to exclude unnecessary files.
Example .dockerignore:

```
node_modules/
```

```
.git/
```



8. Network Not Found

Error: Error: network <network_name> not found

Cause: Network doesn't exist.

Resolution:

- Create the network:

```
docker network create <network_name>
```

- Connect the container to the correct network.
-

9. Container Exited Immediately

Error: Exited (0) or Exited (1)

Cause: Container process ends due to incorrect commands or script issues.

Resolution:

- Check container logs:

```
docker logs <container_id>
```

- Run the container interactively to debug:

```
docker run -it <image_name> /bin/bash
```

10. Disk Space Full

Error: no space left on device

Cause: Docker is using too much disk space.

Resolution:

- Clean up unused resources:

```
docker system prune -a
```

11. Dockerfile Command Not Found

Error: unknown instruction: <command>

Cause: Typo or invalid Dockerfile command.

Resolution:

- Ensure proper syntax and valid commands in the Dockerfile.
 - Reference the Dockerfile documentation.
-



12. Image Build Fails

Error: Error response from daemon: failed to build image

Cause: Incorrect Dockerfile configuration.

Resolution:

- Check Dockerfile for syntax or command errors.
- Run step-by-step build with:

```
docker build --progress=plain .
```

13. Container Name Already In Use

Error: Conflict: The container name <name> is already in use

Cause: Duplicate container name.

Resolution:

- Remove the conflicting container or use a unique name:

```
docker rm <container_name>
```

14. High CPU/Memory Usage

Cause: Resource-intensive containers.

Resolution:

- Limit resources in docker run:

```
docker run --memory=512m --cpus=1 ...
```

15. DNS Issues in Containers

Error: Temporary failure in name resolution

Cause: Network or DNS configuration issue.

Resolution:

- Set DNS servers explicitly:

```
docker run --dns=8.8.8.8 ...
```

16. Permission Denied on Files

Error: Permission denied

Cause: File permissions mismatch.

Resolution:

- Ensure correct permissions on host files.
 - Use chown in the container if necessary.
-

17. Docker Compose Not Found

Error: docker-compose: command not found

Cause: Docker Compose not installed.

Resolution:

- Install Docker Compose:

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

18. Cannot Push to Private Registry

Error: Error response from daemon: denied: requested access

Cause: Authentication issue.

Resolution:

- Log in to the registry:

```
docker login <registry_url>
```

19. Container Hangs

Cause: Deadlocks or resource constraints.

Resolution:

- Restart the container:

```
docker restart <container_id>
```

20. Outdated Docker Version

Error: Features not supported.

Resolution:

- Update Docker to the latest version:

```
sudo apt update && sudo apt install docker-ce
```



21. Container Restart Loop

Error: Exited (137)

Cause: Resource limits or errors in the entry point script.

Resolution:

- Check the logs to identify the issue:

```
docker logs <container_id>
```

- Limit resources or fix entry point errors.
-

22. Image Pull Rate Limit

Error: Too many requests: rate limit exceeded

Cause: Docker Hub rate-limiting for unauthenticated users.

Resolution:

- Log in to Docker Hub:

```
docker login
```

- Use a mirror or private registry.
-

23. Network Timeout

Error: Failed to connect to network: timeout

Cause: Slow or interrupted network connection.

Resolution:

- Retry the operation or check network stability.
 - Increase timeout with the `--timeout` flag.
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24. Cannot Delete Volume

Error: Volume is in use

Cause: A container is still using the volume.

Resolution:

- Remove the associated container before deleting the volume:

```
docker rm -v <container_id>
```



25. Docker Compose Fails to Start Services

Error: Service <service_name> failed to start

Cause: Incorrect docker-compose.yml syntax or missing dependencies.

Resolution:

- Validate the YAML file:

`docker-compose config`

- Check dependency order in depends_on.
-

26. Proxy Issues

Error: Could not resolve proxy: <proxy_name>

Cause: Incorrect or missing proxy configuration.

Resolution:

- Set proxy environment variables:

`export HTTP_PROXY=http://<proxy>:<port>`

`export HTTPS_PROXY=http://<proxy>:<port>`

27. Docker Registry Authentication Failed

Error: unauthorized: authentication required

Cause: Incorrect login credentials.

Resolution:

- Retry logging in:

`docker login`

28. Container Timezone Mismatch

Error: Application uses the wrong timezone.

Cause: Container timezone not synchronized with the host.

Resolution:

- Mount the host timezone:

`docker run -v /etc/localtime:/etc/localtime:ro ...`



29. Cannot Attach to Container

Error: Cannot connect: container not running

Cause: The container is stopped.

Resolution:

- Start the container:

```
docker start <container_id>
```

- Use interactive mode for debugging:

```
docker exec -it <container_id> /bin/bash
```

30. Container IP Not Accessible

Cause: Networking mode or firewall issues.

Resolution:

- Use docker inspect to find the container's IP:

```
docker inspect <container_id>
```

- Ensure correct networking mode (bridge, host, etc.).
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31. Dockerfile COPY Command Fails

Error: COPY failed: no source files were specified

Cause: Source file or directory missing.

Resolution:

- Verify file paths in the Dockerfile.
 - Ensure files are within the build context.
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32. Docker Swarm Initialization Fails

Error: could not initialize swarm: timeout

Cause: Firewall or network issues.

Resolution:

- Open required ports for Docker Swarm:

```
sudo ufw allow 2377/tcp
```

```
sudo ufw allow 7946/tcp
```



33. Missing Default Gateway

Error: no default gateway

Cause: Network misconfiguration.

Resolution:

- Restart the Docker service:

```
sudo systemctl restart docker
```

34. Logs Not Available

Error: log files are missing or inaccessible

Cause: Logging driver misconfiguration.

Resolution:

- Check the logging driver:

```
docker info | grep Logging
```

35. High Number of Unused Images

Cause: Accumulated unused images.

Resolution:

- Remove unused images:

```
docker image prune -a
```

36. Container Cannot Access Host

Cause: Misconfigured network.

Resolution:

- Use the host networking mode:

```
docker run --network host ...
```

37. Docker Service Does Not Start at Boot

Cause: Docker service is not enabled.

Resolution:

- Enable Docker service:

```
sudo systemctl enable docker
```



38. Cannot Access Container Logs

Error: Error opening log file

Cause: Log file permission issues.

Resolution:

- Ensure the correct permissions for log files.
 - Restart the container if needed.
-

39. Resource Contention in Docker Swarm

Error: Task failed due to resource limits

Resolution:

- Scale down services or add more resources to the nodes.
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40. Container Uses Too Much Storage

Cause: Persistent data accumulation.

Resolution:

- Clean up volumes and unused data:

`docker volume prune`

41. Docker Desktop Issues

Error: Docker Desktop hangs or crashes

Resolution:

- Reset Docker Desktop from the settings.
 - Reinstall Docker Desktop.
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42. Failed to Start Service in Overlay Network

Cause: Overlay network misconfiguration.

Resolution:

- Verify the overlay network and swarm node connectivity.
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43. Cannot Share Volumes Between Containers

Cause: Volume name mismatch.



Resolution:

- Use named volumes:

```
docker volume create <volume_name>
```

44. Docker Compose Scale Fails

Error: service could not scale

Resolution:

- Ensure sufficient resources on the host.
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45. Incorrect Entrypoint Script

Error: exec format error

Cause: Invalid script or permissions.

Resolution:

- Fix permissions:

```
chmod +x <script_name>
```

46. Broken Pipe Errors

Cause: Network or process interruptions.

Resolution:

- Retry or use resilient network configurations.
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47. No Space Left in OverlayFS

Cause: Storage layer issues.

Resolution:

- Prune Docker resources.
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48. Container Cannot Access API

Cause: Network restrictions or misconfigured API endpoint.

Resolution:

- Verify API endpoint and network settings.
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49. Service Unavailable in Docker Swarm

Error: 503 Service Unavailable

Resolution:

- Check the load balancer configuration.

50. Docker Update Fails

Error: package conflicts or version issues

Resolution:

- Clean up existing Docker installation before upgrading:

```
sudo apt remove docker docker-engine docker.io
```