Memorize these 7 commands to stop messing around with Docker containers.

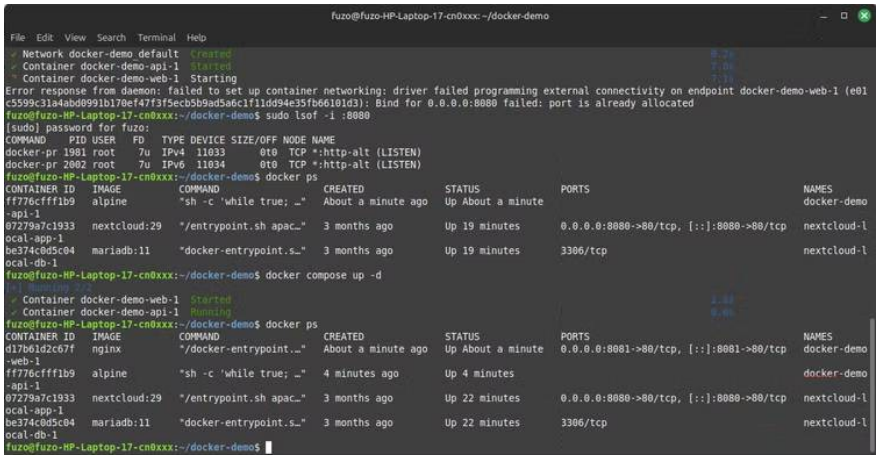
But using Docker effectively isn't just about installing and running containers. You'll get the most out of Docker when you know the commands that give you visibility, control, and efficiency.

Docker allows applications and their dependencies to run reliably on a computer by packaging them into containers, which are portable, isolated environments. This is an ideal solution if you want a reliable, repeatable workflow without worrying about whether a tool or system will work on your machine.

But using Docker effectively isn't just about installing and running containers. You'll get the most out of Docker when you know the commands that give you visibility, control, and efficiency.

Docker Compose

Run multi-service environments with confidence.



Before using the Compose command, people typically ran each container individually and could only hope they connected correctly. This approach was manual and often led to a buggy workflow. However, using the Compose command transformed Docker into an automated workflow, with just a single command, where services, images, ports, environment variables, and volumes are defined in the docker-compose.yml file.

The following command allows you to start the entire stack in the background:

```
docker compose up -d
```

After testing, you can turn everything off using the command:

```
docker compose down
```

With these two simple commands, you'll have better control over Docker.

Docker exec -it bash

Troubleshooting containers from the inside

It's essential to know how to troubleshoot Docker containers, and here's a commonly used command. Use it when you need to check file paths, verify configurations, run quick tests, or debug problems right where they occur:

```
docker exec -it myapp bash
```

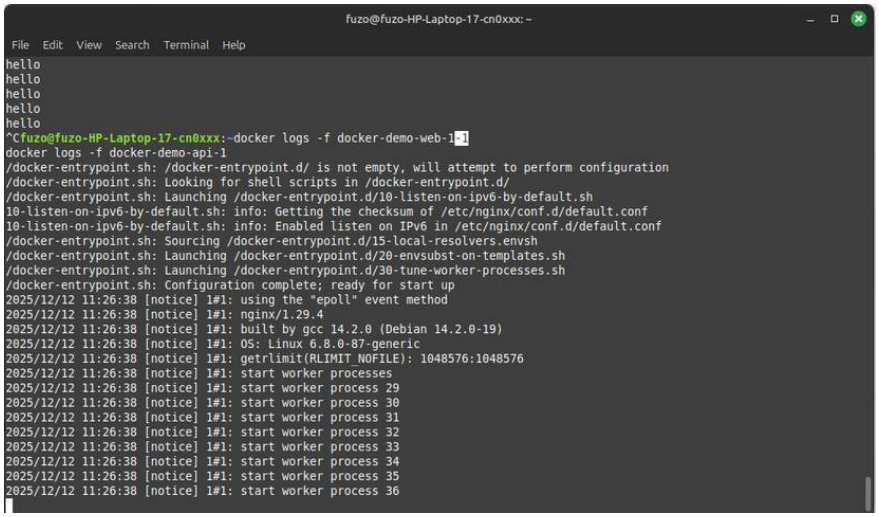
If bash is not available, you can switch to this command:

```
docker exec -it myapp sh
```

Using either of these commands will open an interactive shell, allowing you to explore the container's actual environment.

Docker logs -f

Read the journal directly and stop guessing.



Logging provides a useful way to detect potential problems, and this Docker command is very handy:

```
docker logs -f myapp
```

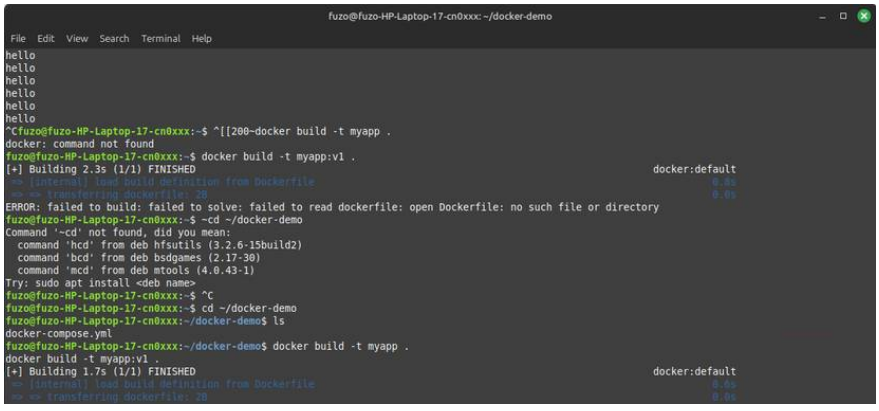
With this command, you can access logs when a container fails to start. Add the -f flag to keep the logs streamed live. This allows you to track the container's startup sequence. This makes it easier to spot missing database login credentials, misspelled environment variables, or poorly configured ports.

Sometimes, logs can be long, making it difficult to find specific elements or troubleshoot problems. Therefore, limit the log results you see to the last 50 lines using the command below:

```
docker logs --tail 50 myapp
```

Docker build

Build predictable images with proper tagging.



The `build` command instructs the Docker daemon to begin the image creation process. When first starting with Docker, builds are often messy. People often don't tag anything, and quickly end up with many unlabeled images. The command below will fix your messy, untagged builds:

```
docker build -t myapp .
```

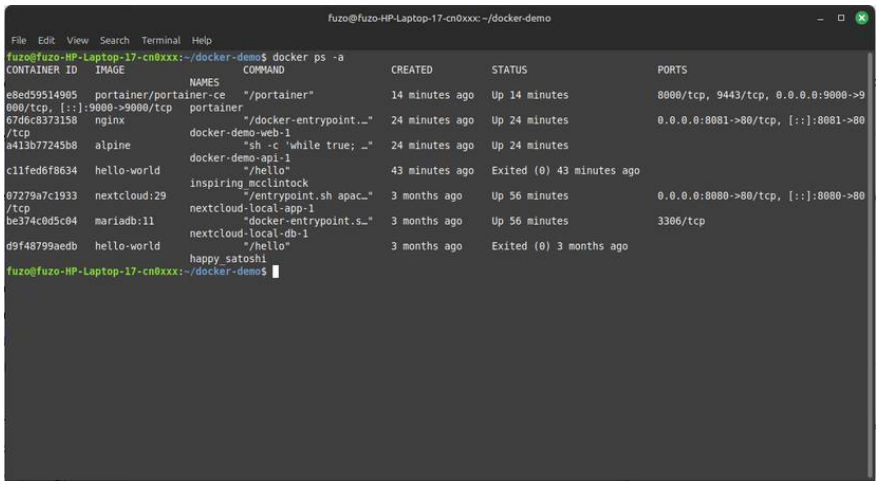
Adding the **-t** flag will tag the resulting image, making it easier to reuse and deploy. Taking it a step further, you can add more versions using the command below:

```
docker build -t myapp:v1 .
```

With this, I can test features without losing track of stable builds. Another benefit of tagging is preventing clutter, eliminating "floating" images that waste space.

Docker ps -a

Stop losing track of containers.



After using Docker for a while, you often lose track of your containers, making the tool unpredictable. Some ports stop working, and Docker sometimes refuses to create containers because some containers you thought you deleted are still there. To get out of this situation, use the Docker command below, which immediately displays the containers that have exited, crashed, or stopped:

```
docker ps -a
```

The following command can be used for quick scripting or cleanup, as it only returns the container ID:

```
docker ps -q
```

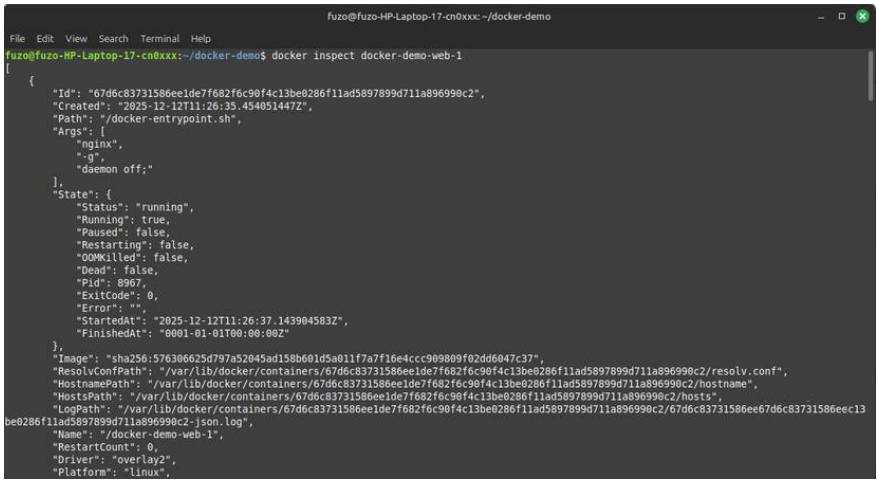
To delete a forgotten container, use the command:

```
docker rm
```

One of the most underrated Docker skills is knowing what exists and what might be silently failing.

Docker hit

See everything about containers in detail.



The `docker inspect` command provides clarity when Docker starts displaying connection issues or unexpected behavior. Below is the basic form of the command:

```
docker inspect myapp
```

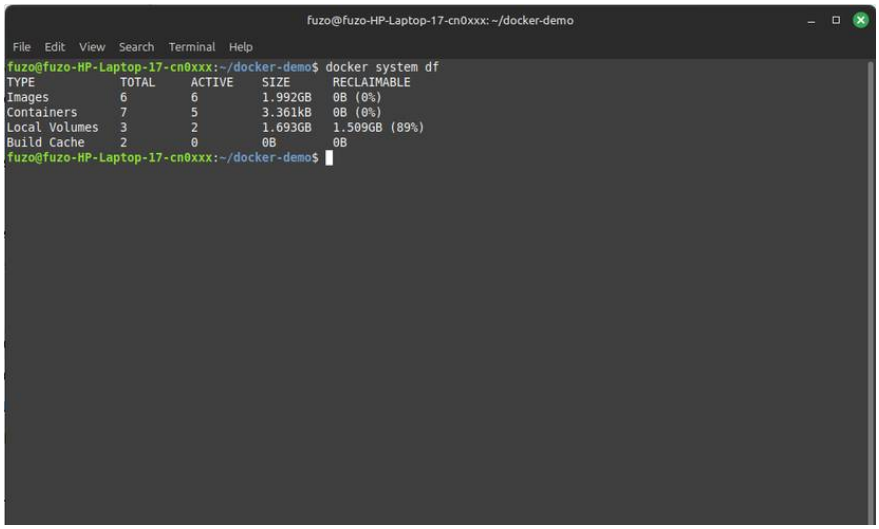
This command displays all the details that Docker sees, including environment variables, network settings, volume, and entry point. You can use the command below to extract a container's IP address when you're curious about a specific component.

```
docker inspect --format='{{.NetworkSettings.IPAddress}}' myapp
```

By running these centralized commands, you can avoid having to sift through countless JSON pages to debug misconfigurations.

Docker system prune

Safely clean up unused Docker resources.



When you start using Docker, it silently accumulates unnecessary resources, such as old images, unused network resources, and stopped containers. Over time, this will slow things down if not cleaned up. Start your cleanup process with a safe version:

```
docker system prune
```

This command retains your images but removes unused containers and networks. You can perform a deeper cleanup and remove images as well by running the following command:

```
docker system prune -a
```

Finally, you can run the following command if you need to delete unused volumes that may contain gigabytes of forgotten data:

```
docker system prune -a --volumes
```

Running the command above will delete unused volumes, but some may be owned by root or other users. Understanding ownership and access permissions in Linux can help make this process safer.