

Common Docker Container Commands

Here are some commands you'll find yourself running often while working with containers.

Command	Description
<code>docker --help</code>	List all Docker commands and options available.

Starting

Command	Description
<code>docker container run <OPTIONS> <IMAGENAME:TAGNUMBER> <COMMAND></code>	Run an image in a container (see more below).
<code>docker container start <CONTAINERNAME></code>	Starting a container that is currently stopped.

Here are a few flags commonly used with the `run` command.

Flag	Description
<code>--name</code>	Give the container a pretty name that you can use in other commands (see below).
<code>--rm</code>	Automatically remove the container when it exits.
<code>--mount source=<VOLUMENAME>,target=<PATH-IN-CONTAINER></code>	Connect a volume
<code>--net</code>	Connect a custom network
<code>-d</code>	Use "detached" mode so the container runs in the background rather than taking over your terminal window.
<code>-p</code>	Map a machine's port to a port in the container (repeat as needed).
<code>-it</code>	Run a command in a container in interactive mode (similar to <code>exec -it</code> below). }

Here are some examples.

- `docker container run --name web -p 8080:80 -d nginx`
- `docker container run -it --rm alpine sh`
- `docker container run -it --rm ubuntu bash`

Accessing

Command	Description
<code>docker container exec <CONTAINERNAME> <COMMAND></code>	Execute a command in a container that is already running.

Command	Description
<code>docker container exec -it <CONTAINERNAME> bash</code>	Connect to a container with shell - commonly, <code>bash</code> (shown here) or <code>sh</code> . (Use <code>ctrl+d</code> or type <code>exit</code> to disconnect.)

Listing

Command	Description
<code>docker ps</code> or <code>docker container ls</code>	List all running containers.
<code>docker ps -a</code> or <code>docker container ls -a</code>	List all containers.
<code>docker ps -a -q</code>	List the ids of all containers (used to stop all containers - see below).

Monitoring

Command	Description
<code>docker stats</code>	Get live performance data. (Use <code>ctrl+c</code> to disconnect.)
<code>docker container inspect <CONTAINERNAME></code>	Return json with metadata about the specified container.
<code>docker container top <CONTAINERNAME></code>	Display the running processes of the specified container.

Clean up

Command	Description
<code>docker container stop <CONTAINERNAME></code>	Stop the running processes in the specified container.
<code>docker container stop \$(docker ps -a -q)</code>	Stop all containers.
<code>docker container prune</code>	Remove all stopped containers.
<code>docker container rm <CONTAINERNAME></code>	Remove one or more stopped containers.
<code>docker container rm -f <CONTAINERNAME></code>	Remove a running container by forcefully killing its processes (should rarely be used).

Here's an analogy to help you understand when to use `docker container rm -f`.

- `docker container rm` is like selecting **Shut Down** in a menu on your machine. It is a "soft" stop and remove which give the computer time to clean up whatever is running.
- `docker container rm -f` is like pulling the plug on the wall (for desktops) or removing the battery (on laptops or mobile devices). It is a "hard" stop and remove with no opportunity to save or clean up. It is necessary if you end up with a runaway process (or infinite loop).

More about the `run` command

Optionally, you can use

`docker container run <OPTIONS> <IMAGENAME:TAGNUMBER> <COMMAND>` to run an image with specified option flags, a version (tagnumber), and a command. Check out the [Docker container run documentation](#) for a list of options and flags.

Order matters

Note that all flags (i.e. `-it`) need to come **before** non-flags; otherwise, the flags after the non-flags are ignored or applied to the last non-flag item.

- GOOD: `docker container run -it alpine sh`
(the `-it` docker command flags are BEFORE non-flags)
- BAD: `docker container run alpine sh -it`
(the `-it` docker command flags are AFTER non-flags)
- GOOD: `docker container run alpine ls -l`
(no docker flags; rather, this flag is part of the `<COMMAND>`, specifically `ls -l`)

History

Since Docker started several years ago, there are older and newer ways of running the same command. In this course, you'll be using the updated long form version of the Docker CLI commands which will usually follow the format of `docker <COMMAND> <SUBCOMMAND>`. A perfect example of this is `docker container run`, where `container` is the command and `run` is the subcommand.

- The old way: `docker run --rm hello-world`.
- The recommended way: `docker container run --rm hello-world`.

For future reference

Feel free to bookmark the official [Docker Cheatsheet](#).

You may also [save or print this reference](#), if you'd like.