**Docker Hub**

| **Docker Syntax** | **Description** |
| --- | --- |
| **docker search** searchterm | Search Docker Hub for images. |
| **docker pull** user/image | Downloads an image from Docker Hub. |
| **docker login** | Authenticate to Docker Hub (or other Docker registry). |
| **docker push** user/image | Uploads an image to Docker Hub. You must be authenticated to run this command. |

**Image and Container Information**

| **Docker Syntax** | **Description** |
| --- | --- |
| **docker ps** | List all running containers. |
| **docker ps -a** | List all container instances, with their ID and status. |
| **docker images** | Lists all images on the local machine. |
| **docker history** user/image | Lists the history of an image. |
| **docker logs** [container name or ID] | Displays the logs from a running container. |
| **docker port** [container name or ID] | Displays the exposed port of a running container. |
| **docker diff** [container name or ID] | Lists the changes made to a container. |

**Work With Images and Containers**

| **Docker Syntax** | **Description** |
| --- | --- |
| **docker run** -it user/image | Runs an image, creating a container and changing the terminal to the terminal within the container. |
| **docker run** -p $HOSTPORT:$CONTAINERPORT -d user/image | Run an image in detached mode with port forwarding. |
| **ctrl+p then ctrl+q** | From within the container’s command prompt, detach and return to the host’s prompt. |
| **docker attach** [container name or ID] | Changes the command prompt from the host to a running container. |
| **docker start** [container name or ID] | Start a container. |
| **docker stop** [container name or ID] | Stop a container. |
| **docker rm -f** [container name or ID] | Delete a container. |
| **docker rmi** | Delete an image. |
| **docker tag** user/image:tag user/image:newtag | Add a new tag to an image. |
| **docker exec** [container name or ID] shell command | Executes a command within a running container. |

**Image Creation**

| **Docker Syntax** | **Description** |
| --- | --- |
| **docker commit** user/image | Save a container as an image. |
| **docker save** user/image | Save an image to a tar archive. |
| **docker build -t sampleuser/ubuntu .** | Builds a Docker image from a Dockerfile in the current directory. |
| **docker load** | Loads an image from file. |

### Lifecycle

* [docker create](https://docs.docker.com/engine/reference/commandline/create) creates a container but does not start it.
* [docker rename](https://docs.docker.com/engine/reference/commandline/rename/) allows the container to be renamed.
* [docker run](https://docs.docker.com/engine/reference/commandline/run) creates and starts a container in one operation.
* [docker rm](https://docs.docker.com/engine/reference/commandline/rm) deletes a container.
* [docker update](https://docs.docker.com/engine/reference/commandline/update/) updates a container's resource limits.

### Starting and Stopping

* [docker start](https://docs.docker.com/engine/reference/commandline/start) starts a container so it is running.
* [docker stop](https://docs.docker.com/engine/reference/commandline/stop) stops a running container.
* [docker restart](https://docs.docker.com/engine/reference/commandline/restart) stops and starts a container.
* [docker pause](https://docs.docker.com/engine/reference/commandline/pause/) pauses a running container, "freezing" it in place.
* [docker unpause](https://docs.docker.com/engine/reference/commandline/unpause/) will unpause a running container.
* [docker wait](https://docs.docker.com/engine/reference/commandline/wait) blocks until running container stops.
* [docker kill](https://docs.docker.com/engine/reference/commandline/kill) sends a SIGKILL to a running container.
* [docker attach](https://docs.docker.com/engine/reference/commandline/attach) will connect to a running container.

### Info

* [docker ps](https://docs.docker.com/engine/reference/commandline/ps) shows running containers.
* [docker logs](https://docs.docker.com/engine/reference/commandline/logs) gets logs from container. (You can use a custom log driver, but logs is only available for json-file and journald in 1.10).
* [docker inspect](https://docs.docker.com/engine/reference/commandline/inspect) looks at all the info on a container (including IP address).
* [docker events](https://docs.docker.com/engine/reference/commandline/events) gets events from container.
* [docker port](https://docs.docker.com/engine/reference/commandline/port) shows public facing port of container.
* [docker top](https://docs.docker.com/engine/reference/commandline/top) shows running processes in container.
* [docker stats](https://docs.docker.com/engine/reference/commandline/stats) shows containers' resource usage statistics.
* [docker diff](https://docs.docker.com/engine/reference/commandline/diff) shows changed files in the container's FS.