

# Docker CheatSheet

# KUBERNETES

- PDF Link: [cheatsheet-docker-A4.pdf](#), Category: tools
- Blog URL: <https://cheatsheet.dennyzhang.com/cheatsheet-docker-A4>
- Related posts: Kubernetes Yaml, #denny-cheatsheets

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## 1.1 Docker start service

| Name                    | Summary   |
|-------------------------|---|
| Start a ubuntu test env | <code>docker run ubuntu:16.04 /bin/echo hello world</code>  |
| Start a centos test env | <code>docker run centos:centos6 /bin/echo hello world</code>  |
| Start nginx             | <code>docker run -t -d -p 8080:80 --name nginx-test nginx</code>                                      |
| Start a sshd server     | <code>docker run -t -d --privileged -p 5022:22 denny/sshd:latest /usr/sbin/sshd -D</code>             |
| Start a jenkins server  | <code>docker run -p 8080:8080 denny/jenkins:1.0</code>  |
| Start a ftp server      | <code>docker run -t -d -p 21:21 -p 20:20 -e USERNAME=\${username} -e PASSWORD=\${password} den</code> |

## 1.2 Docker Containers

| Name                                    | Summary   |
|---|---|
| Start docker container                  | <code>docker run -p 4000:80 imgname</code>                                |
| Start docker container in detached mode | <code>docker run -d -p 4000:80 imgname</code>                             |
| Enter a running container               | <code>docker exec -it [container-id] sh</code>                            |
| Stop container                          | <code>docker stop &lt;hash&gt;</code>                                     |
| Remove container                        | <code>docker rm &lt;hash&gt;</code>                                       |
| Remove all containers                   | <code>docker rm \$(docker ps -a -q)</code>                                |
| Force shutdown of one given container   | <code>docker kill &lt;hash&gt;</code>                                     |
| Login to docker hub                     | <code>docker login</code>   |
| Run image from a given tag              | <code>docker run username/repo:tag</code>                                 |
| Tail container logs                     | <code>docker logs --tail 5 \$container_name</code>                        |
| Check container healthcheck status      | <code>docker inspect --format '{{.State.Health}}' \$container_name</code> |
| List all containers                     | <code>docker ps, docker ps -a</code>                                      |
| List containers by labels               | <code>docker ps --filter "label=org.label-schema.group"</code>            |

## 1.3 Docker Images

| Name                               | Summary   |
|------------------------------------|---|
| List all images                    | <code>docker images, docker images -a</code>            |
| Tag <image>                        | <code>docker tag &lt;image&gt; username/repo:tag</code> |
| Docker push a tagged image to repo | <code>docker push username/repo:tag</code>              |
| Create docker image                | <code>docker build -t denny/image:test .</code>         |
| Show the history of an image       | <code>docker history username/repo:tag</code>           |

## 1.4 Docker Cleanup

| Name                           | Summary  |
|--------------------------------|--|
| Remove the specified image     | <code>docker rmi &lt;imagename&gt;</code>                            |
| Remove all docker images       | <code>docker rmi \$(docker images -q)</code>                         |
| Remove orphaned docker volumes | <code>docker volume rm \$(docker volume ls -qf dangling=true)</code> |
| Remove dead containers         | <code>docker rm \$(docker ps --filter status=dead -qa)</code>        |

## 1.5 Ubuntu docker: Install missing packages

| Name                     | Summary   |
|--------------------------|---|
| Pull ubuntu docker image | <code>docker pull ubuntu</code>                           |
| man: command not found   | <code>apt-get update, apt-get install man</code>          |
| ping: command not found  | <code>apt-get update, apt-get install iputils-ping</code> |
| dig: command not found   | <code>apt-get install dnsutils</code>                     |

## 1.6 Docker Socket file

| Name                               | Summary  |
|------------------------------------|--|
| Links                              | Link: Develop with Docker Engine SDKs and API  |
| Run container mounting socket file | <code>docker run -v /var/run/docker.sock:/var/run/docker.sock -it alpine sh</code>                       |
| A different docker socket file     | <code>export DOCKER_HOST=unix:///my/docker.sock</code>   |
| List containers                    | <code>curl -XGET --unix-socket /var/run/docker.sock http://localhost/containers/json</code>              |
| Stop container                     | <code>curl -XPOST --unix-socket /var/run/docker.sock http://localhost/containers/&lt;id&gt;/stop</code>  |
| Start container                    | <code>curl -XPOST --unix-socket /var/run/docker.sock http://localhost/containers/&lt;id&gt;/start</code> |
| List events                        | <code>curl --unix-socket /var/run/docker.sock http://localhost/events</code>                             |
| Create container                   | <code>curl -XPOST --unix-socket /var/run/docker.sock -d '{"Image":"nginx:alpine"}'</code>                |

## 1.7 Docker Compose

| Name                             | Summary  |
|----------------------------------|--|
| Change entrypoint to run nothing | <code>entrypoint: ["tail", "-f", "/dev/null"]</code>   |
| Change restart policy            | <code>restart: always</code> , Link: Compose file version 3 reference                            |
| Mount file as volume             | <code>\$PWD/httpd/httpd.conf:/usr/local/apache2/conf/httpd.conf:ro sample-mount-file.yaml</code> |
| Start compose env                | <code>docker-compose up</code> , <code>docker-compose up -d</code>                               |
| Stop compose env                 | <code>docker-compose down</code> , <code>docker-compose down -v</code>                           |
| Check logs                       | <code>docker-compose logs</code>   |

## 1.8 Container Runtime

| Name    | Summary  |
|---------|--|
| dockerd |  |
| rkt     | a pod-native container engine for Linux.   |
| CRI-O   | Open Container Initiative-based implementation of Kubernetes Container Runtime Interface |

## 1.9 Resource Reference

| Name                  | Summary   |
|-----------------------|---|
| Docker SDK            | <a href="https://docs.docker.com/develop/sdk/examples/">https://docs.docker.com/develop/sdk/examples/</a>   |
| Docker REST API       | <a href="https://docs.docker.com/engine/api/v1.27/#tag/Container">https://docs.docker.com/engine/api/v1.27/#tag/Container</a>                         |
| Docker Hub auto build | <a href="https://docs.docker.com/docker-hub/builds/#build-statuses-explained">https://docs.docker.com/docker-hub/builds/#build-statuses-explained</a> |
| Docker files          | <code>/var/lib/docker</code> , <code>/var/lib/docker/devicemapper/mnt</code>  |

## 1.10 More Resources

License: Code is licensed under MIT License.