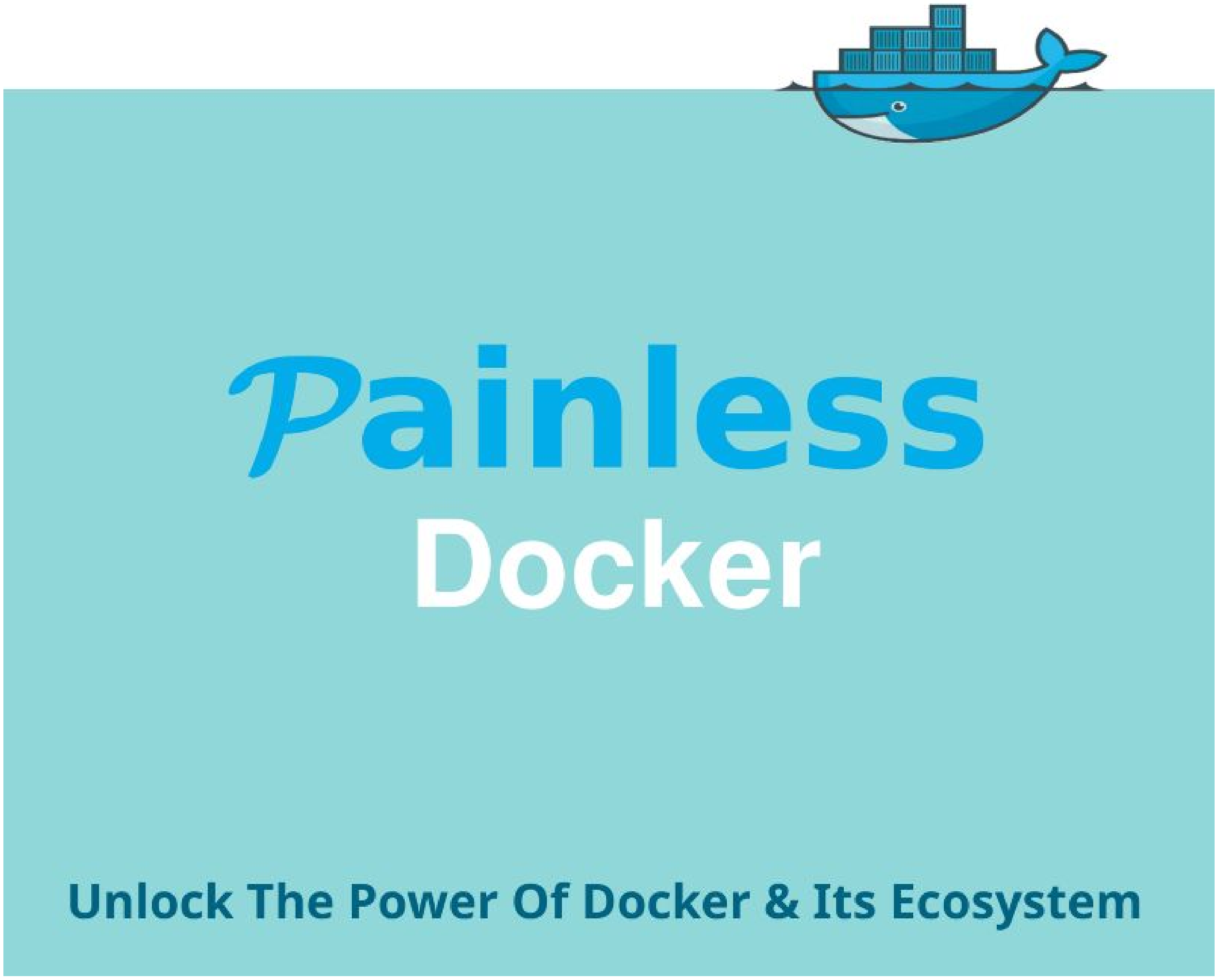
Docker Cheat Sheet

Aymen El Amri
painlessdocker.com

This Docker Cheat Sheet was first published in Painless Docker Course.

Painless Docker is a Practical Guide to Master Docker and its Ecosystem Based on Real World Examples.



Author: Aymen El Amri
Website: www.painlessdocker.com

Installation

Linux

```
curl -sSL https://get.docker.com/ | sh
```

Mac

Use this link to download the dmg.

`https://download.docker.com/mac/stable/Docker.dmg`

Windows

Use the msi installer:

`https://download.docker.com/win/stable/InstallDocker.msi`

Docker Registries & Repositories

Login to a Registry

```
docker login
```

```
docker login localhost:8080
```

Logout from a Registry.

```
docker logout
```

```
docker logout localhost:8080
```

Searching an Image

```
docker search nginx
```

```
docker search nginx --stars=3 --no-trunc busybox
```

Pulling an Image

```
docker image pull nginx
```

```
docker image pull eon01/nginx localhost:5000/myadmin/nginx
```

Pushing an Image

```
docker image push eon01/nginx
```

```
docker image push eon01/nginx localhost:5000/myadmin/nginx
```

Running Containers

Create and Run a Simple Container

- Start an ubuntu:latest image
- Bind the port `80` from the CONTAINER to port `3000` on the HOST
- Mount the current directory to `/data` on the CONTAINER
- Note: on windows you have to change `-v ${PWD}:/data` to `-v "C:\Data":/data`

```
docker container run --name infinite -it -p 3000:80 -v ${PWD}:/data ubuntu:latest
```

Creating a Container

```
docker container create -t -i eon01/infinite --name infinite
```

Running a Container

```
docker container run -it --name infinite -d eon01/infinite
```

Renaming a Container

```
docker container rename infinite infinity
```

Removing a Container

```
docker container rm infinite
```

Updating a Container

```
docker container update --cpu-shares 512 -m 300M infinite
```

Starting & Stopping Containers

Starting

```
docker container start nginx
```

Stopping

```
docker container stop nginx
```

Restarting

```
docker container restart nginx
```

Pausing

```
docker container pause nginx
```

Unpausing

```
docker container unpause nginx
```

Blocking a Container

```
docker container wait nginx
```

Sending a SIGKILL

```
docker container kill nginx
```

Sending another signal

```
docker container kill -s HUP nginx
```

Connecting to an Existing Container

```
docker container attach nginx
```

Getting Information

about Containers

Running Containers

```
docker container ls
```

```
docker container ls -a
```

Container Logs

```
docker logs infinite
```

Follow Container Logs

```
docker container logs infinite -f
```

Inspecting Containers

```
docker container inspect infinite
docker container inspect --format '{{ .NetworkSettings.IPAddress }}' $(docker ps -q)
```

Containers Events

```
docker system events infinite
```

Public Ports

```
docker container port infinite
```

Running Processes

```
docker container top infinite
```

Container Resource Usage

```
docker container stats infinite
```

Inspecting changes to files or directories on a container’s filesystem

```
docker container diff infinite
```

Manipulating Images

Listing Images

```
docker image ls
```

Building Images

```
docker build .
```

```
docker build github.com/creack/docker-firefox
```

```
docker build - < Dockerfile
docker build - < context.tar.gz
```

```
docker build -t eon/infinite .
```

```
docker build -f myOtherDockerfile .
```

```
curl example.com/remote/Dockerfile | docker build -f - .
```

Removing an Image

```
docker image rm nginx
```

Loading a Tarred Repository from a File or the Standard Input Stream

```
docker image load < ubuntu.tar.gz
```

```
docker image load --input ubuntu.tar
```

Save an Image to a Tar Archive

```
docker image save busybox > ubuntu.tar
```

Showing the History of an Image

```
docker image history
```

Creating an Image From a Container

```
docker container commit nginx
```

Tagging an Image

```
docker image tag nginx eon01/nginx
```

Pushing an Image

```
docker image push eon01/nginx
```

Networking

Creating Networks

```
docker network create -d overlay MyOverlayNetwork
```

```
docker network create -d bridge MyBridgeNetwork
```

```
docker network create -d overlay \
  --subnet=192.168.0.0/16 \
  --subnet=192.170.0.0/16 \
  --gateway=192.168.0.100 \
  --gateway=192.170.0.100 \
  --ip-range=192.168.1.0/24 \
  --aux-address="my-router=192.168.1.5" --aux-address="my-switch=192.168.1.6" \
  --aux-address="my-printer=192.170.1.5" --aux-address="my-nas=192.170.1.6" \
  MyOverlayNetwork
```

Removing a Network

```
docker network rm MyOverlayNetwork
```

Listing Networks

```
docker network ls
```

Getting Information About a Network

```
docker network inspect MyOverlayNetwork
```

Connecting a Running Container to a Network

```
docker network connect MyOverlayNetwork nginx
```

Connecting a Container to a Network When it Starts

```
docker container run -it -d --network=MyOverlayNetwork nginx
```

Disconnecting a Container from a Network

```
docker network disconnect MyOverlayNetwork nginx
```

Cleaning Docker

Removing a Running Container

```
docker container rm nginx
```

Removing a Container and its Volume

```
docker container rm -v nginx
```

Removing all Exited Containers

```
docker container rm $(docker container ls -a -f status=exited -q)
```

Removing All Stopped Containers

```
docker container rm `docker container ls -a -q`
```

Removing a Docker Image

```
docker image rm nginx
```

Removing Dangling Images

```
docker image rm $(docker image ls -f dangling=true -q)
```

Removing all Images

```
docker image rm $(docker image ls -a -q)
```

Removing all untagged images

```
docker image rm -f $(docker image ls | grep "^<none>" | awk "{print $3}")
```

Stopping & Removing all Containers

```
docker container stop $(docker container ls -a -q) && docker container rm $(docker container ls -a -q)
```

Removing Dangling Volumes

```
docker volume rm $(docker volume ls -f dangling=true -q)
```

Removing all unused (containers, images, networks and volumes)

```
docker system prune -f
```

Clean all

```
docker system prune -a
```

Docker Swarm

Installing Docker Swarm

```
curl -ssl https://get.docker.com | bash
```

Initializing the Swarm

```
docker swarm init --advertise-addr 192.168.10.1
```

Getting a Worker to Join the Swarm

```
docker swarm join-token worker
```

Getting a Manager to Join the Swarm

```
docker swarm join-token manager
```

Listing Services

```
docker service ls
```

Listing nodes

```
docker node ls
```

Creating a Service

```
docker service create --name vote -p 8080:80 instavote/vote
```

Listing Swarm Tasks

```
docker service ps
```

Scaling a Service

```
docker service scale vote=3
```

Updating a Service

```
docker service update --image instavote/vote:movies vote
```

```
docker service update --force --update-parallelism 1 --update-delay 30s nginx
```

```
docker service update --update-parallelism 5--update-delay 2s --image instavote/vote:indent vote
```

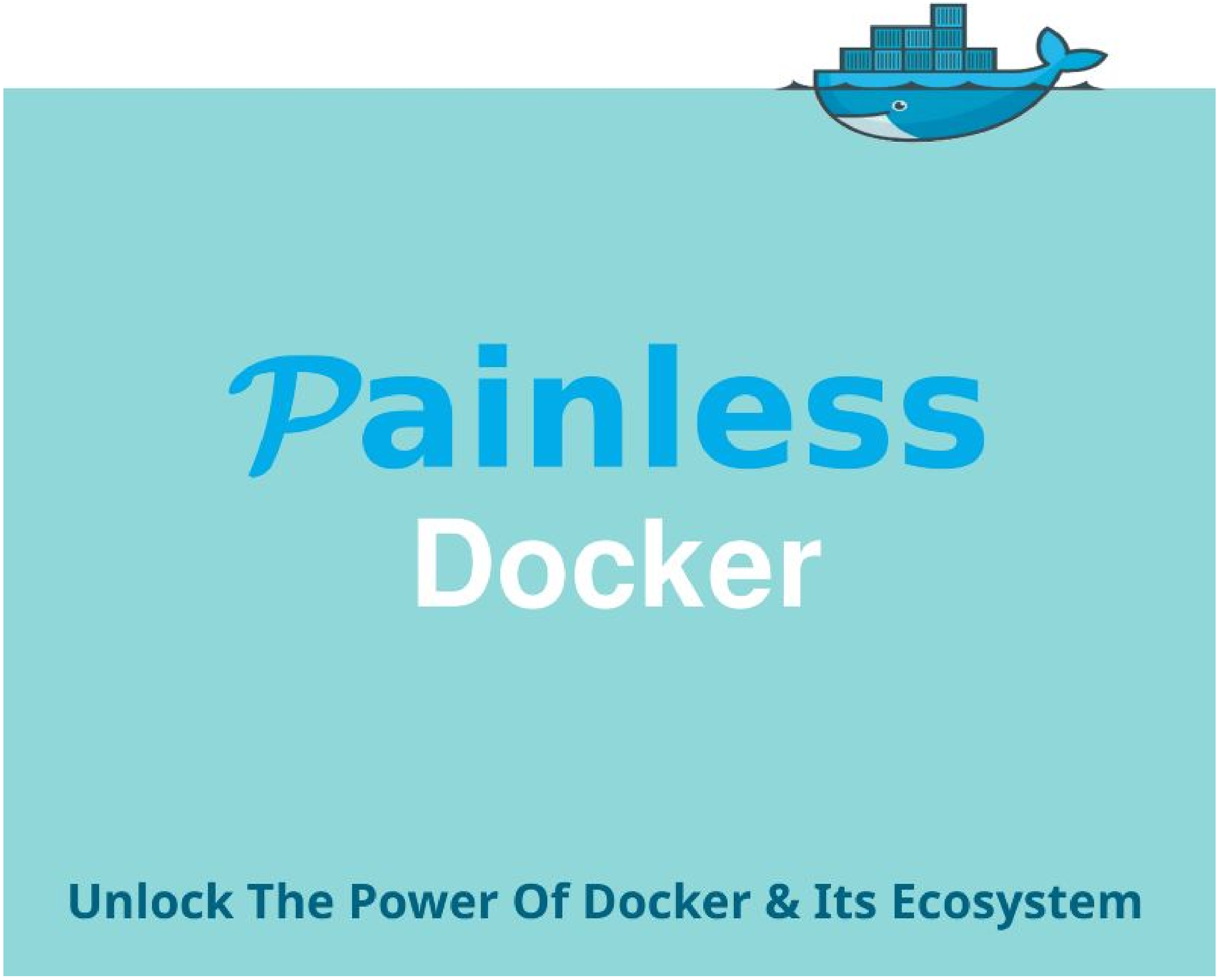
```
docker service update --limit-cpu 2 nginx
```

```
docker service update --replicas=5 nginx
```

Notes

This Docker Cheat Sheet was first published in Painless Docker Course.

Painless Docker is a Practical Guide to Master Docker and its Ecosystem Based on Real World Examples.



Author: Aymen El Amri
Website: www.painlessdocker.com