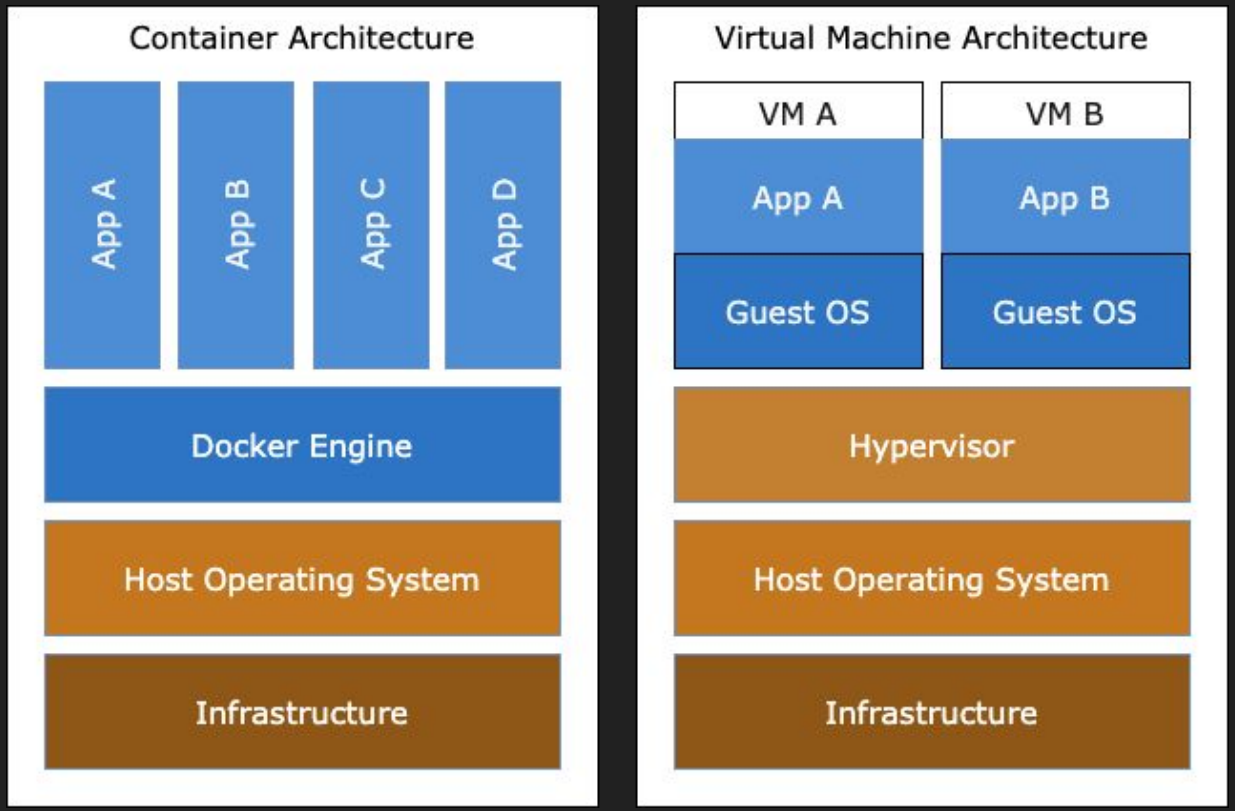
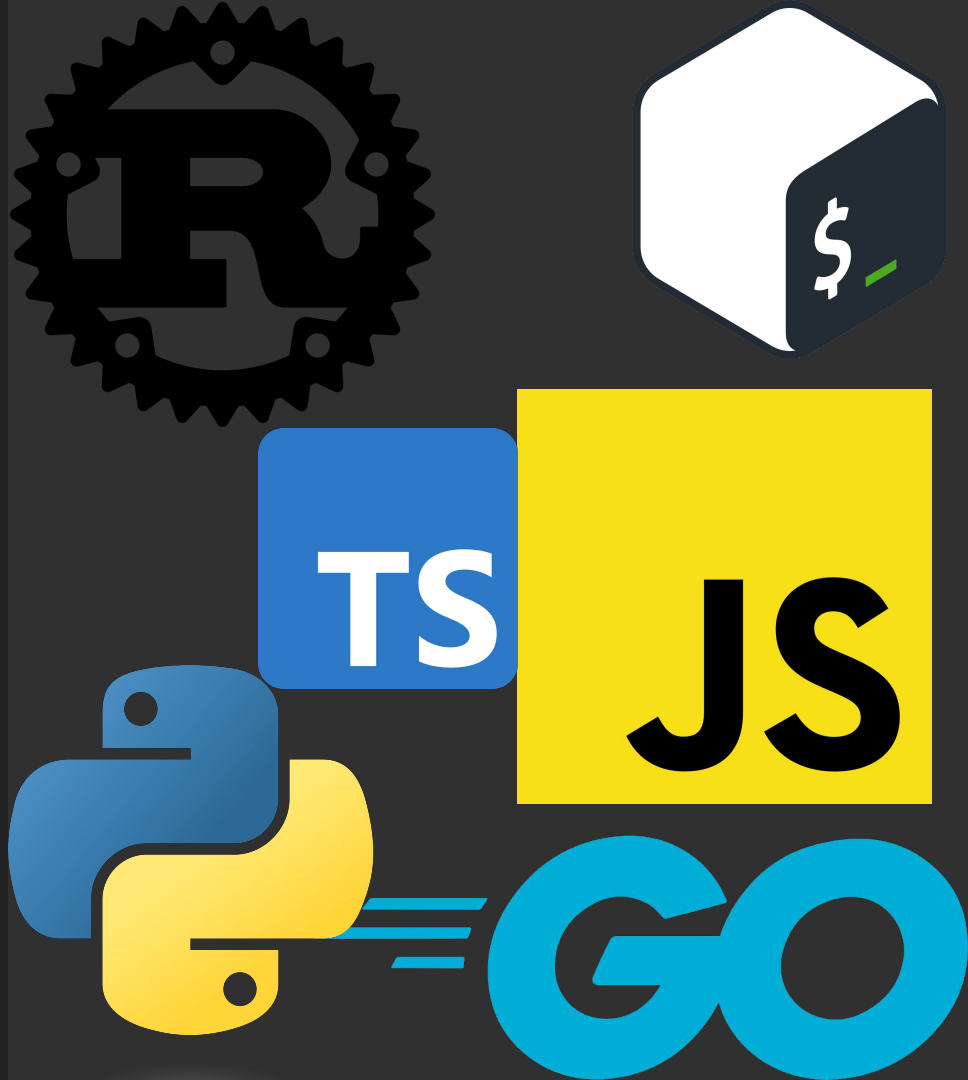
Backend From Scratch

Docker Architecture



Container over VM

Polyglot

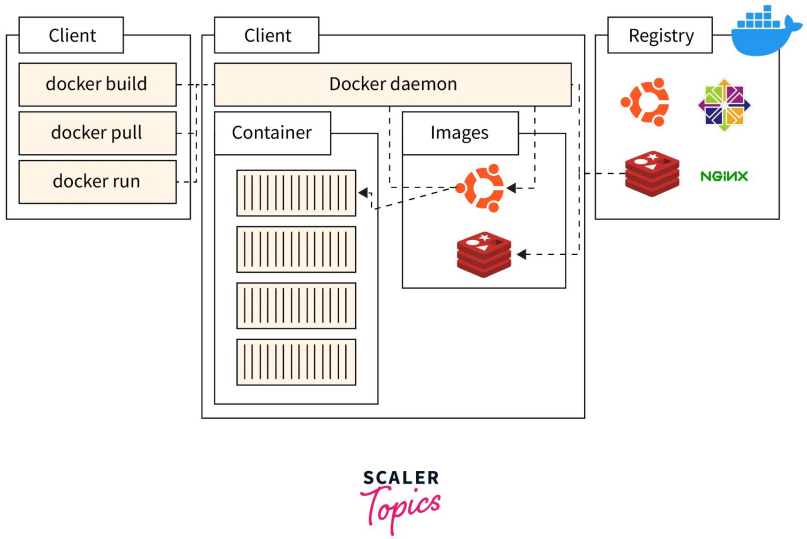


Why should I?

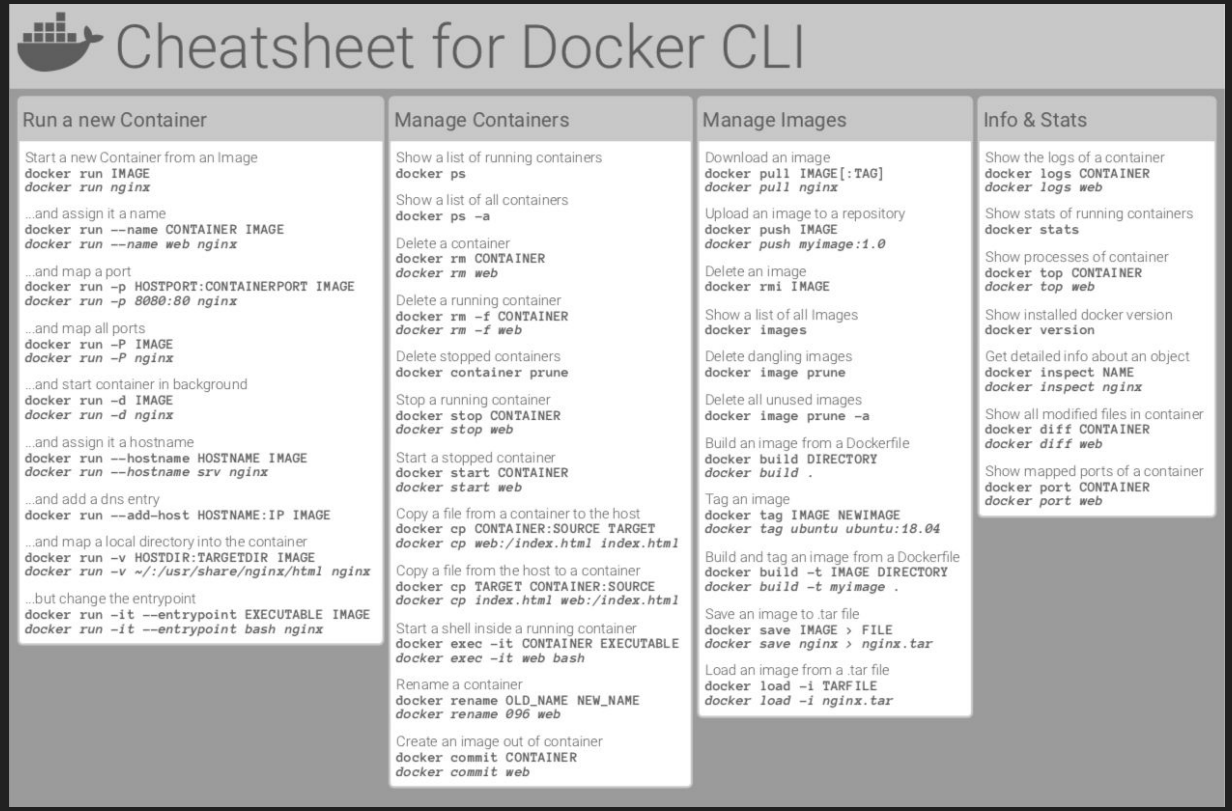
D . B

(And other facilities)

A better explanation



In short



Cheatsheet for Docker CLI

Run a new Container

Start a new Container from an Image
```
docker run IMAGE
docker run nginx
```

...and assign it a name
```
docker run --name CONTAINER IMAGE
docker run --name web nginx
```

...and map a port
```
docker run -p HOSTPORT:CONTAINERPORT IMAGE
docker run -p 8080:80 nginx
```

...and map all ports
```
docker run -P IMAGE
docker run -P nginx
```

...and start container in background
```
docker run -d IMAGE
docker run -d nginx
```

...and assign it a hostname
```
docker run --hostname HOSTNAME IMAGE
docker run --hostname srv nginx
```

...and add a dns entry
```
docker run --add-host HOSTNAME:IP IMAGE
```

...and map a local directory into the container
```
docker run -v HOSTDIR:TARGETDIR IMAGE
docker run -v ~/:/usr/share/nginx/html nginx
```

...but change the entrypoint
```
docker run -it --entrypoint EXECUTABLE IMAGE
docker run -it --entrypoint bash nginx
```

Manage Containers

Show a list of running containers
```
docker ps
```

Show a list of all containers
```
docker ps -a
```

Delete a container
```
docker rm CONTAINER
docker rm web
```

Delete a running container
```
docker rm -f CONTAINER
docker rm -f web
```

Delete stopped containers
```
docker container prune
```

Stop a running container
```
docker stop CONTAINER
docker stop web
```

Start a stopped container
```
docker start CONTAINER
docker start web
```

Copy a file from a container to the host
```
docker cp CONTAINER:SOURCE TARGET
docker cp web:/index.html index.html
```

Copy a file from the host to a container
```
docker cp TARGET CONTAINER:SOURCE
docker cp index.html web:/index.html
```

Start a shell inside a running container
```
docker exec -it CONTAINER EXECUTABLE
docker exec -it web bash
```

Rename a container
```
docker rename OLD_NAME NEW_NAME
docker rename 096 web
```

Create an image out of container
```
docker commit CONTAINER
docker commit web
```

Manage Images

Download an image
```
docker pull IMAGE[:TAG]
docker pull nginx
```

Upload an image to a repository
```
docker push IMAGE
docker push myimage:1.0
```

Delete an image
```
docker rmi IMAGE
```

Show a list of all Images
```
docker images
```

Delete dangling images
```
docker image prune
```

Delete all unused images
```
docker image prune -a
```

Build an image from a Dockerfile
```
docker build DIRECTORY
docker build .
```

Tag an image
```
docker tag IMAGE NEWIMAGE
docker tag ubuntu ubuntu:18.04
```

Build and tag an image from a Dockerfile
```
docker build -t IMAGE DIRECTORY
docker build -t myimage .
```

Save an image to .tar file
```
docker save IMAGE > FILE
docker save nginx > nginx.tar
```

Load an image from a .tar file
```
docker load -i TARFILE
docker load -i nginx.tar
```

Info & Stats

Show the logs of a container
```
docker logs CONTAINER
docker logs web
```

Show stats of running containers
```
docker stats
```

Show processes of container
```
docker top CONTAINER
docker top web
```

Show installed docker version
```
docker version
```

Get detailed info about an object
```
docker inspect NAME
docker inspect nginx
```

Show all modified files in container
```
docker diff CONTAINER
docker diff web
```

Show mapped ports of a container
```
docker port CONTAINER
docker port web
```

It comes again