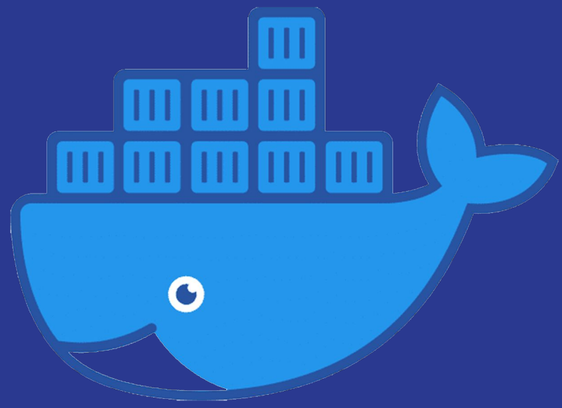
Docker



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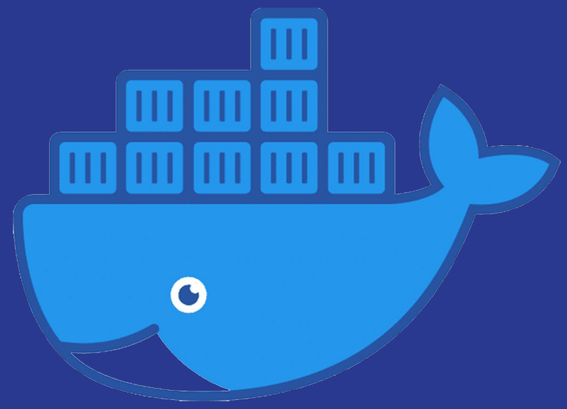
Installation

Docker
(installation)



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Docker
(image)

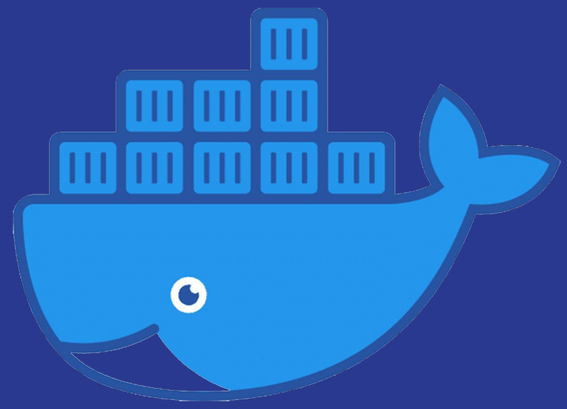

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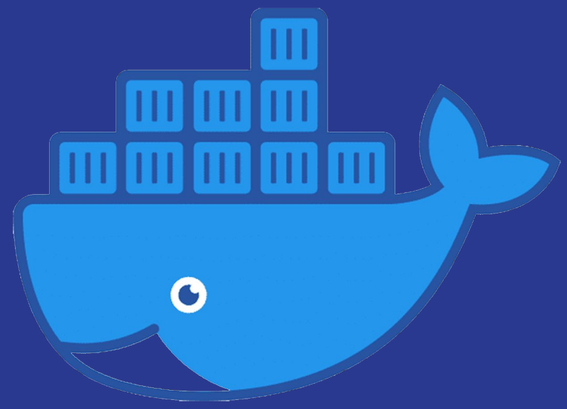
Image

```
$ docker image ls
$ docker image pull IMAGE_NAME:TAG
$ docker image rm IMAGE_ID
$ docker image prune -a
```

Docker
(container)



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How to run container?

```
$ docker container run IMAGE_NAME:TAG
$ docker container run -itd IMAGE_NAME:TAG

$ docker container run -itd --name=MY_NAME IMAGE_NAME:TAG
$ docker container run -itd -p HOST_PORT:CONTAINER_PORT IMAGE_NAME
```

Container

```
$ docker container ls
$ docker container create IMAGE_ID
$ docker container start/stop CONTAINER_ID
$ docker container attach CONTAINER_ID
$ docker container rename CURRENT_NAME NEW_NAME
$ docker container rm CONTAINER_ID
$ docker container inspect CONTAINER_ID
```

How to interact with container without attach it?

```
$ docker exec -it CONTAINER_ID command

Eg…
$ docker exec -it 11111111 /bin/sh
$ docker exec -it 11111111 hostname
$ docker exec -it 11111111 cat /etc/os-release
```

Remove All Containers

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

$ docker container prune
```

Where to store containers?

```
$ sudo ls -l /var/lib/docker/containers/
```

How to copy file between host and containers?

```
$ docker container cp SRC_PATH DEST_PATH

Eg…
$ docker container cp ~/file01 CONTAINER_ID:/tmp/
$ docker container CONTAINER_ID:/home/file01 /home/
```

Container Port Mapping

```
$ docker container run -itd -p 3000:80 IMAGE_NAME:TAG
$ docker container run -itd -p 3001:80 IMAGE_NAME:TAG
$ docker container run -itd -p 9000:80 IMAGE_NAME:TAG
```

Image Registry

```
$ docker container run IMAGE_NAME:TAG
```

Where did we got this image from ……?

Image Registry - Store, manage, and secure your Docker container images

- Docker Trusted Registry
- Google Container Registry
- Amazon Container Registry
- Azure Container Registry

Image Registry

Image Addressing convention

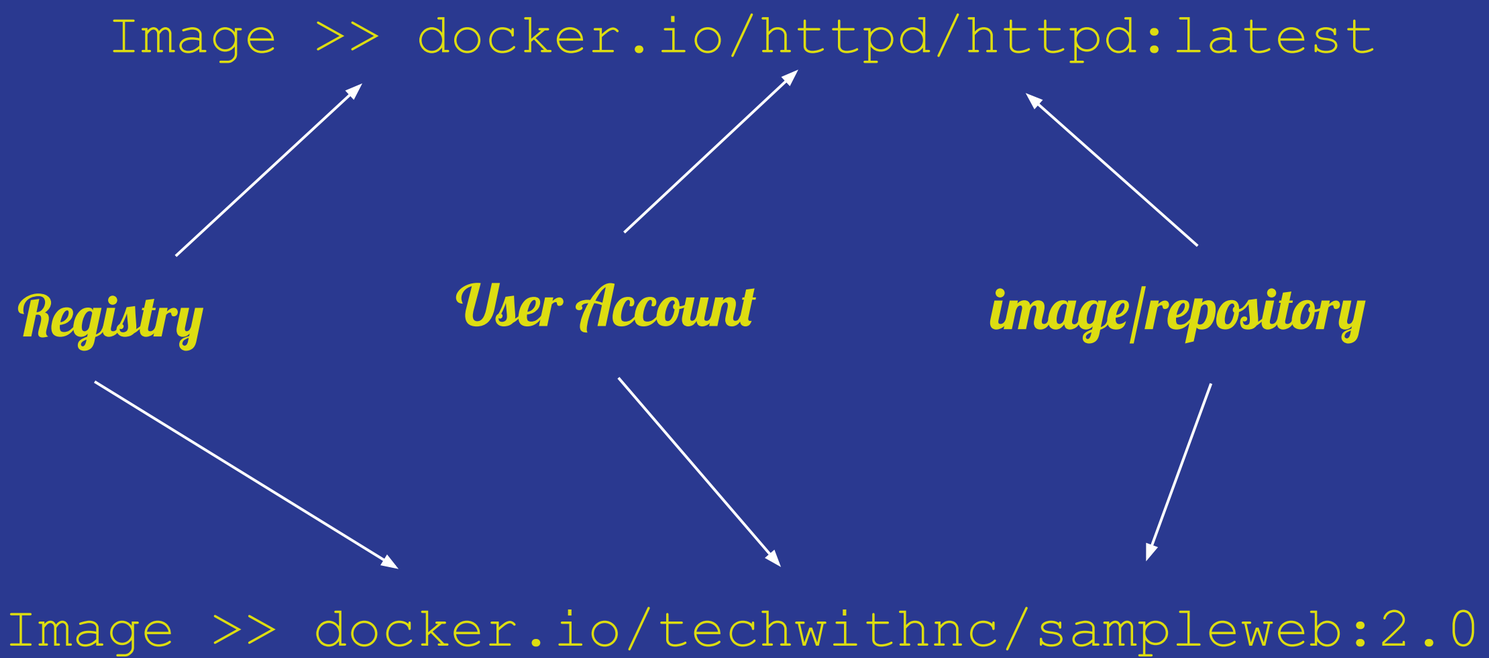


Image Save and Load

Docker Host 01

```
$ docker image save alpine:latest -o my_image.tar
```

Docker Host 02

```
$ docker image load -i my_image.tar
```

Container import and export

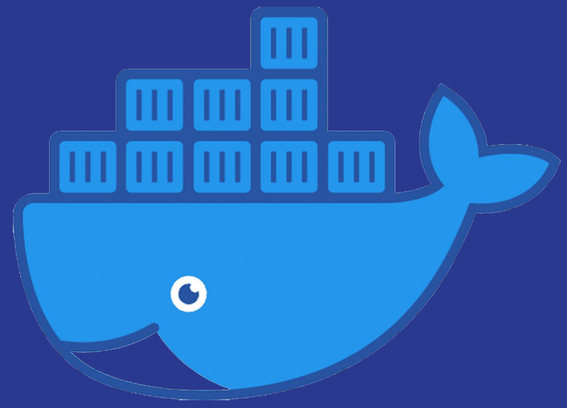
```
$ docker export CONTAINER_ID > my_container.tar
$ ls

$ docker image import my_container.tar my_image:latest
$ docker image ls
```

How to create own image ?

- Method (1) with Dockerfile
- Method (2) with commit command

Docker
(network)



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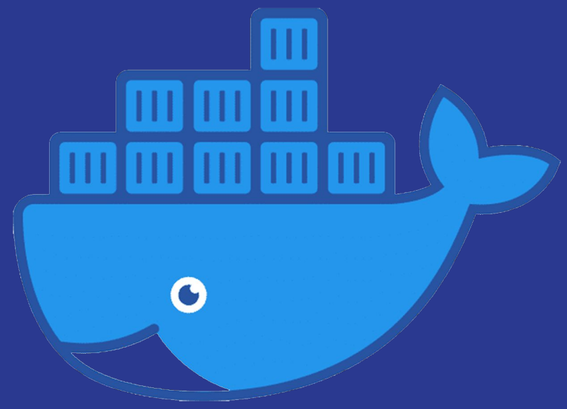
Docker Networking

- Bridge (default)
- None
- Host

```
$ docker network ls
$ docker network create --driver bridge —-subnet 172.10.0.0/16 MY_NET
$ docker network connect NETWORK_ID CONTAINER_ID
$ docker network disconnect NETWORK_ID CONTAINER_ID
$ docker network rm NETWORK_ID
$ docker network prune
```

Docker
(volume)



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Docker Volumes

```
$ docker volume ls
$ docker volume create MY_VOL01
$ docker volume inspect MY_VOL01
$ docker volume rm MY_VOL01
```

Docker Volumes

How to attach volumes to container?

```
$ docker container run -itd \
--mount source=MY_VOL01,destination=/home/ nginx

$ docker container run -itd \
--mount source=MY_VOL01,destination=/home/,readonly nginx


$ docker container inspect CONTAINER_ID
```

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Docker Volumes

Where do this volumes' data exist?

```
$ ls -l /var/lib/docker/volumes/
```

Thank You!