Docker - Images

Container Image

- An image is a read-only template with instructions for creating a Docker container

- Image contains necessary dependencies and configurations which are required to run application

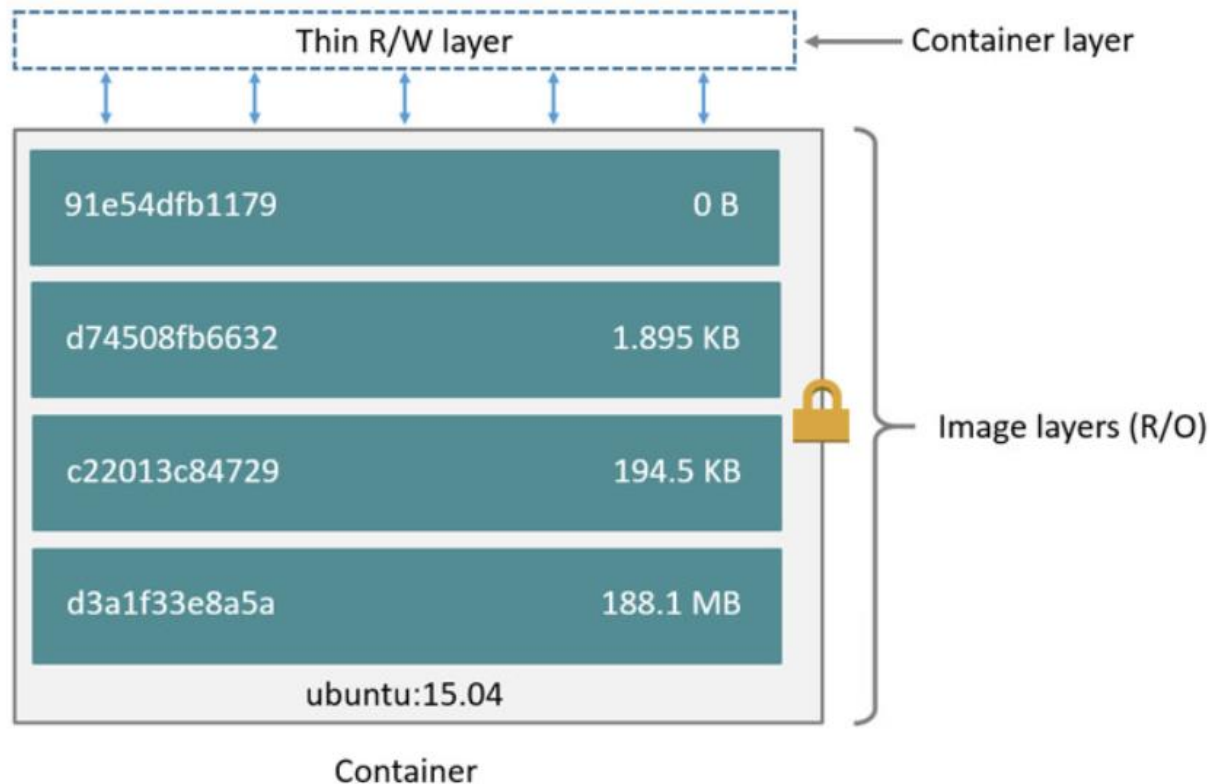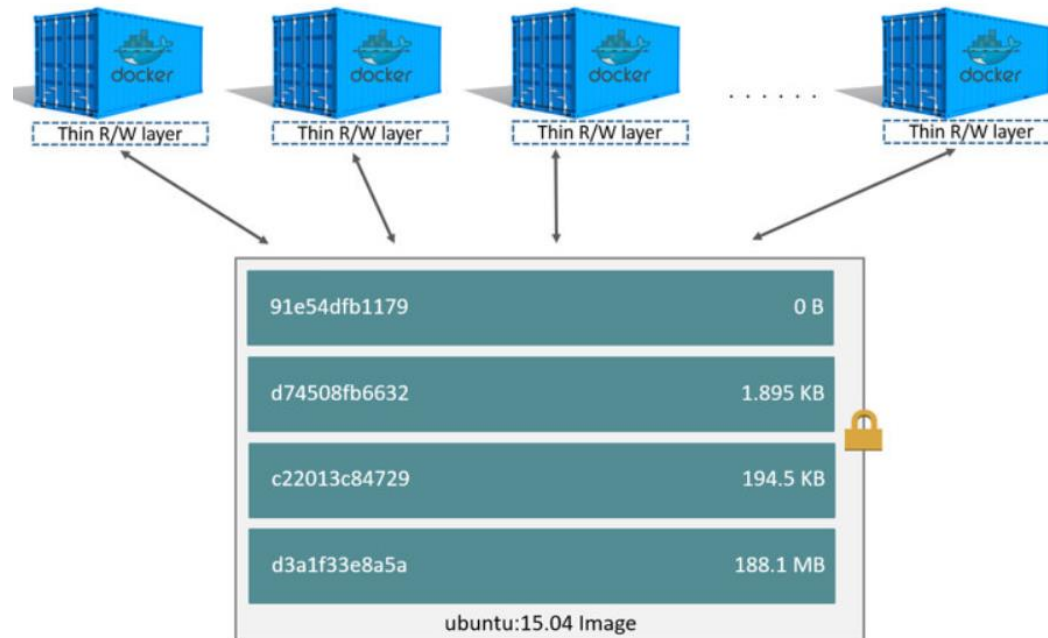- An image is based on another image, with some additional customization

Image and Containers

- One Image can be used by many containers
- Image can be shared among containers
- Docker image is created by using many layers
- Each layer is instruction in Docker file
- Images layers - Read only
- Container is top layer which is writable

Dockerfile

- Container is associated with an image
- We can have public images (i.e. from Docker hub), or we can create our own customized image
- Docker can build the image by reading instructions from Dockerfile
- Dockerfile – A text document or file which contains instructions to form the image
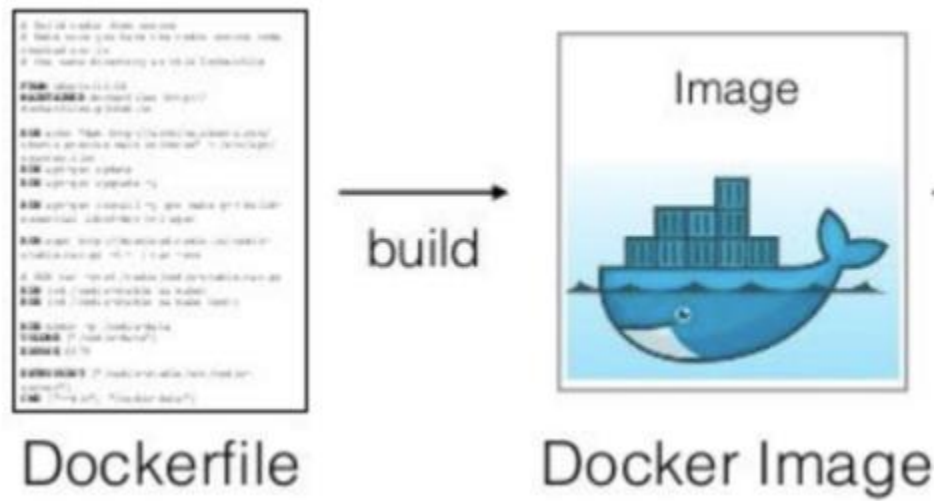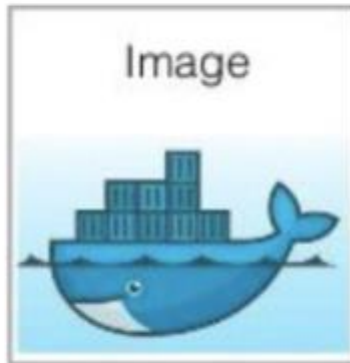

Dockerfile   build →   Docker Image

Dockerfile

Dockerfile Instructions

- Starts with FROM instruction
- Do not provide any extension to this file
- FROM instruction contains base image
- Format – **Instruction arguments or options**
- Few available instructions
  - FROM
  - RUN
  - ENV
  - EXPOSE
  - COPY
  - ADD
  - LABEL
  - CMD
  - USER
  - ENTRYPOINT
  - VOLUME etc

Sample Docker File

FROM ubuntu

RUN apt-get update

RUN apt-get install nginx -y

CMD ["nginx","-g","daemon off"]

Image – Container - Lifecycle