# Docker

Kristo Raun

Data Engineering 2024 Fall



UNIVERSITY OF TARTU

#### What is Docker?

Docker is an open platform for developing, shipping, and running applications.

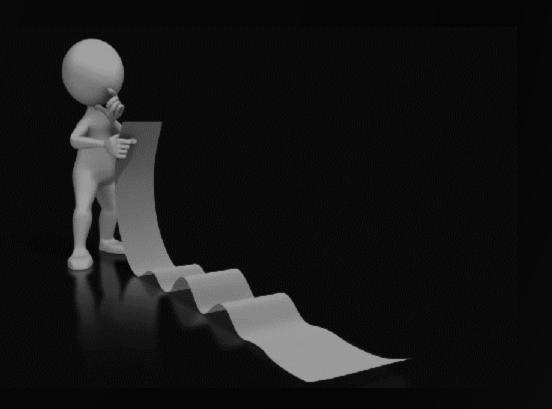
#### What is Docker?

- Docker is an open platform for developing, shipping, and running applications.
- Docker enables you to separate your applications from your infrastructure so you can deliver software quickly.

♦ Works on my machine

- ♦ Works on my machine
  - ♦ You just need to install:

- ♦ Works on my machine
  - ♦ You just need to install:



- ♦ Works on my machine
  - ♦ You just need to install: .....
- ♦ OK, but VM?

- ♦ Works on my machine
  - ♦ You just need to install: .....
- ♦ OK, but VM?





- ♦ Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?





Speed





- Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?





Speed





Size





- ♦ Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?





Speed





Size





Complexity





- ♦ Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?





Speed





Size





Complexity





- ♦ Works on my machine
  - ♦ You just need to install: .....
- ♦ OK, but VM?







- ♦ Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?



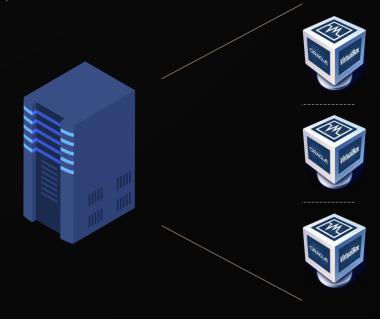






applications (services)

- ♦ Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?

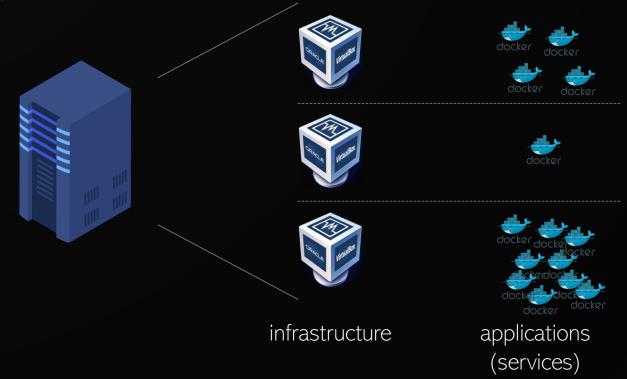




infrastructure

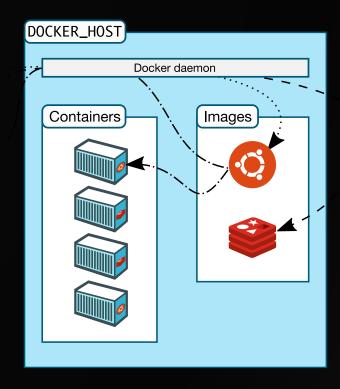
applications (services)

- ♦ Works on my machine
  - ♦ You just need to install: ......
- ♦ OK, but VM?



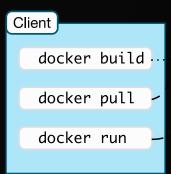
#### About

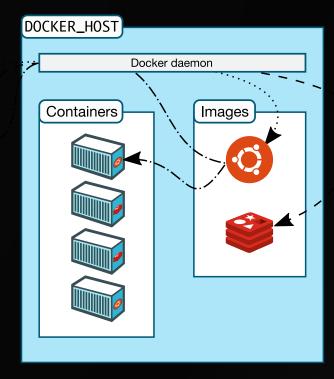
- ♦ Docker daemon (dockerd)
  - ♦ Management



#### About

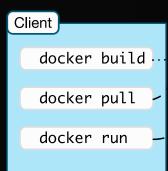
- ♦ Docker daemon (dockerd)
  - ♦ Management
- ♦ Client (eg CLI)
  - ♦ Interact with Docker daemon

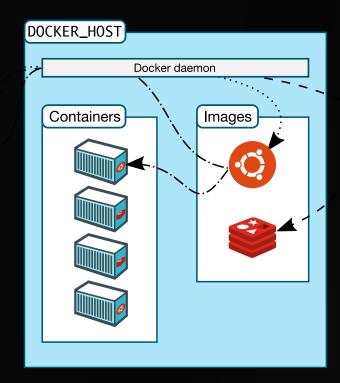




#### About

- Docker daemon (dockerd)
  - ♦ Management
- ♦ Client (eg CLI)
  - ♦ Interact with Docker daemon
- Registry (eg Docker Hub)
  - ♦ Image store







# Docker objects

### Docker objects

- ♦ Image
  - $\diamond$  = template
  - Types
    - ♦ Images in registry
    - ♦ From Dockerfile

#### Docker objects

- ♦ Image
  - $\diamond$  = template
  - Types
    - ♦ Images in registry
    - ♦ From Dockerfile
- Container
  - ♦ = instance
  - ♦ Has
    - ♦ Storage
    - Network

#### Final words...

- How we will run:
  - ♦ Docker CLI





#### Final words...

- ♦ How we will run:
  - ♦ Docker CLI
  - ♦ Docker Compose









#### Final words...

- How we will run:
  - ♦ Docker CLI
  - ♦ Docker Compose
- ♦ Out of scope:
  - ♦ Kubernetes (K8s)















