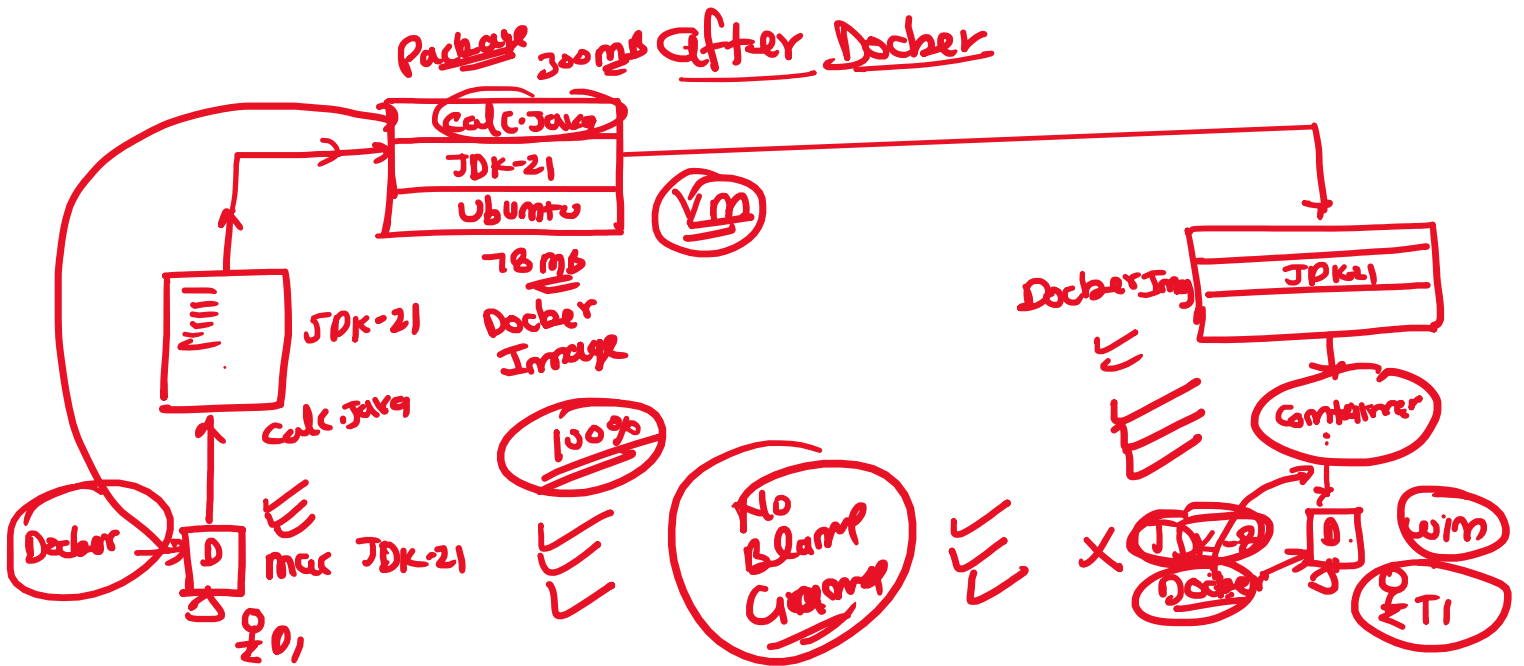# Day-1 (Docber)

Containerization with Docber
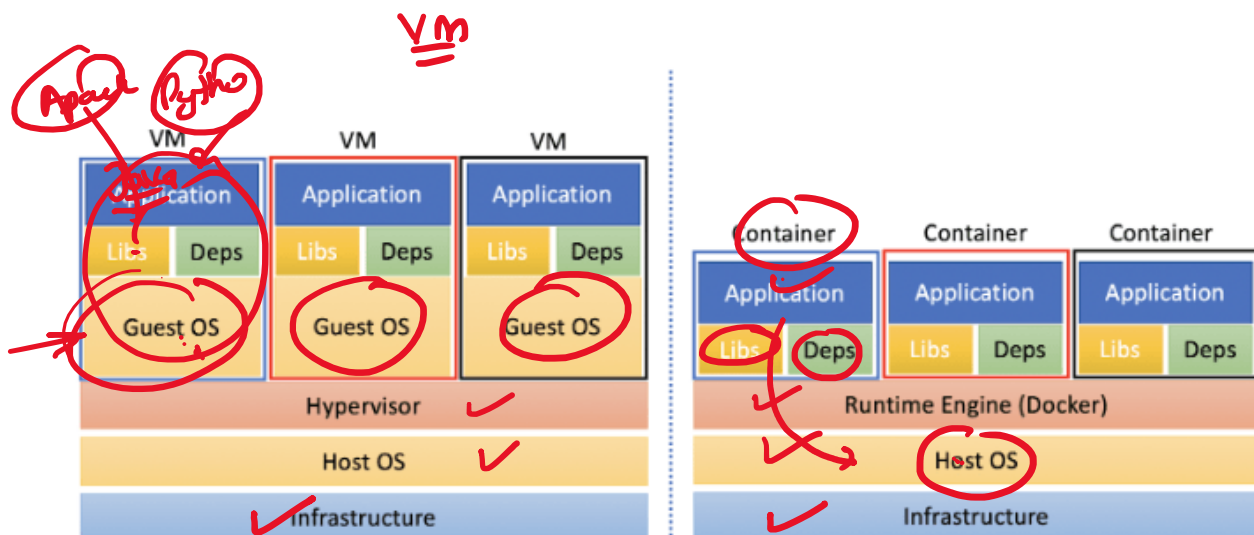90%

Before Docber

JDK-21
Calc.Java
JDK-21
mac
♀ O₁
D1 ✓✓

Blame game

D1 Code is
Not working
✗ Test is fail

Calc.Java
JDK-8   window
♀ T₁

After Docber

Package 300mb
Calc.Java
JDK-21
Ubuntu   Vm

78 mb
Docber
Image

JDK-21
Calc.Java

Docber → D
mac JDK-21
♀ O₁

100%

No
Blame
game
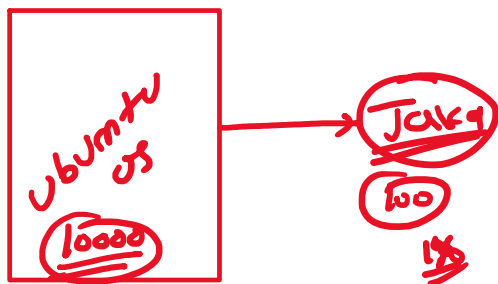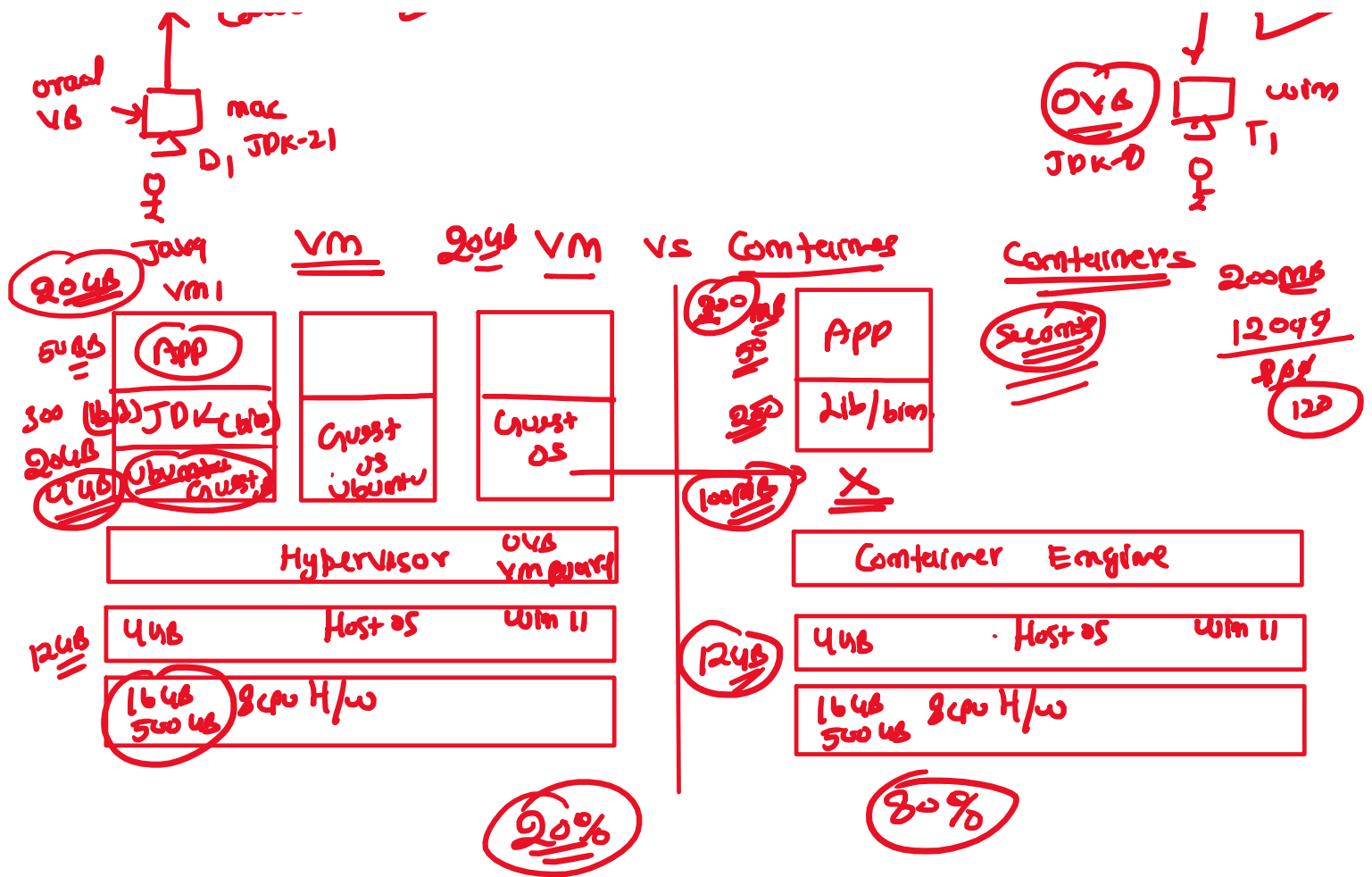
DockerImg   JPK21

Container

✗ JDK-8
Docker
♀ T₁
win

Java Class
Java object
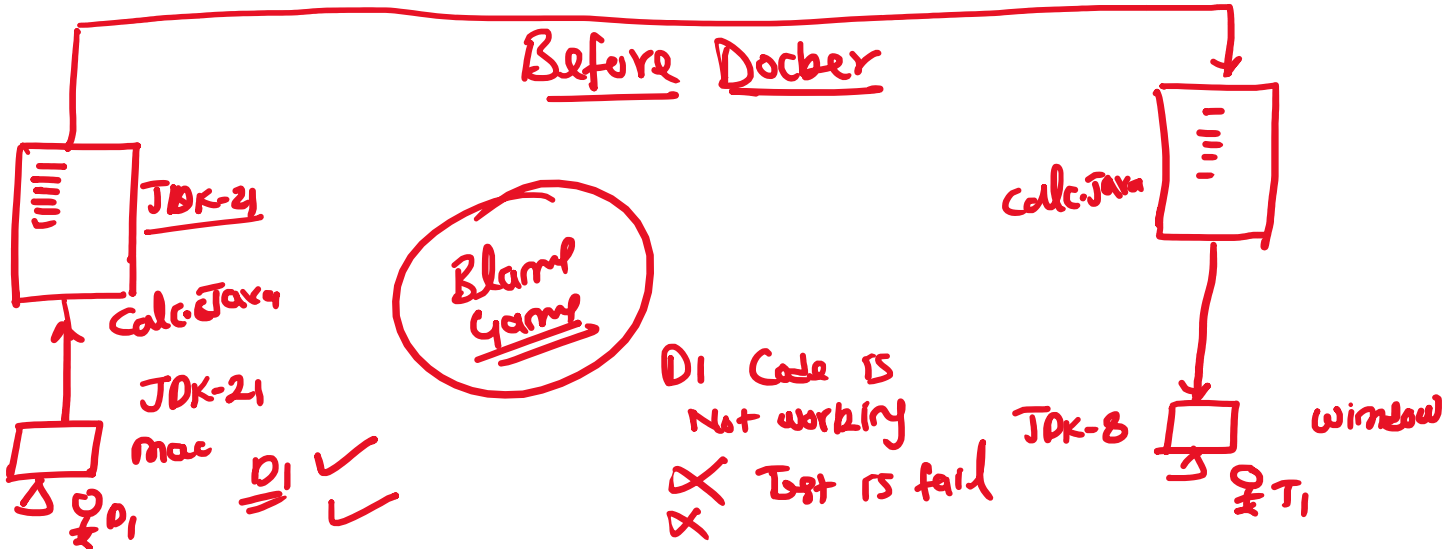
Docber Image → Static Entities → Class
Docber Container → Instance of a class

Object is a instance of a class

✓ A obj = new A()
✓ A Ob2 = new A()

Ob1
f1 ✓

Class A
2 Image

CLYX A
2 Image
f1 c1
3

A.clys

□a
TJA

Ob 2

c1 □
f1 □

4- apache
2-nginx
3 IIS
microsoft
windows

1- Mysql
2- Postgres

Docker Image

99%

Linux

Docker

10,000 +

□ DI

○ Cont.

CMD

mkdir demo

Ubuntu

nginx

Container

Docker Container Engine

① vm →
② WSL
③ Dual Boot

40 ms
20 ms
15 ms

Calculator
JDK 4
Ubuntu 10GB

VM

Calc Java

oracl

VM
VM

WSL

VM vs Containers

orcal VB → [D, JDK-21] mac

OVB — JDK-D — win T1

VM

2048 VM1

VM 2048 **VM vs Containers** Containers 200MB

2048 Java
5MB [App]
300 (MB) JDK (MB)
2048 Ubuntu Guest
4GB

Guest OS Ubuntu

Guest OS

200MB
50
100MB

| App |
| Lib/bin |

500MB
120GB
120

Hypervisor	OVB VMware

12GB | 4GB | Host OS | win 11 |

16GB 500GB 8cpu H/w

12GB | Container Engine |

12GB | 4GB | · Host OS | win 11 |

16GB 500GB 8cpu H/w

20%   **80%**

| Ubuntu OS | → Java |
| 10000 | 100 |

LS

VM

Apache Python

VM	VM	VM
Java Application	Application	Application
Libs	Deps	Libs	Deps	Libs	Deps
Guest OS	Guest OS	Guest OS
Hypervisor ✔		
Host OS ✔		
✔ Infrastructure		

Container	Container	Container
Application	Application	Application
Libs	Deps	Libs	Deps	Libs	Deps
Runtime Engine (Docker)		
Host OS		
✔ Infrastructure		

monolithic
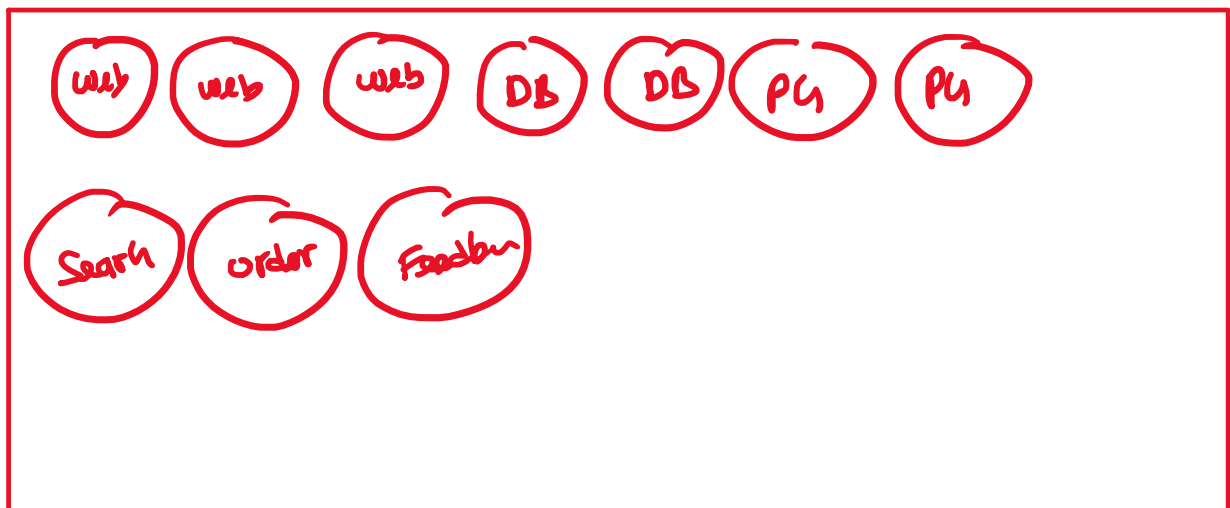
Python
Ping
curl
Java
200MB
400 pn
(1040)
Rym
Drs

ECR → Elastic Cont. Registry   (Docker Hub)
(ECS) → Running Platform   Host/storg
(EKS) Kubernetys

Enterprise — E-Commance (100+ Container)

(web) (web) (web) (DB) (DB) (Pu) (Pu)

(Search) (order) (Foodbn)

ubunto: latest

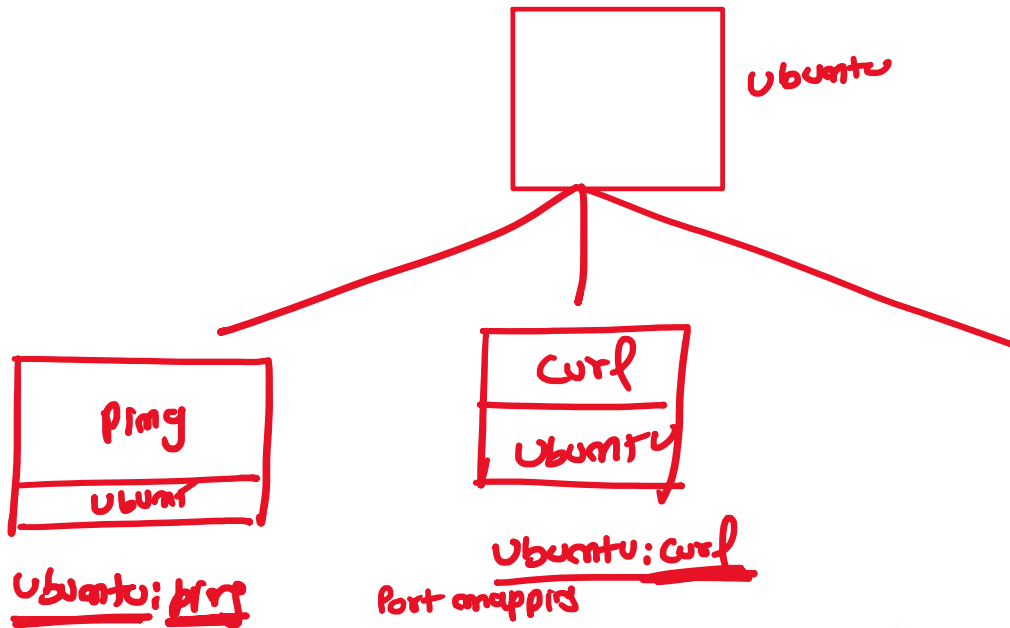docker pull <image-name>

                        version
<image-Name>: Tag

          :1.0 ←

                                latest

docker pull ubuntu: Curl

: 1.0 ←
· 2.0 ←
· 3.0 ⇄

docker pull ubuntu: curl

ubuntu

Ping

ubunt

curl

ubuntu

Ubuntu: ping

Ubuntu: curl

Port onapp13

docker run -1 -p 8004:80 nginx -2 -b -d

-1 → detached
Background
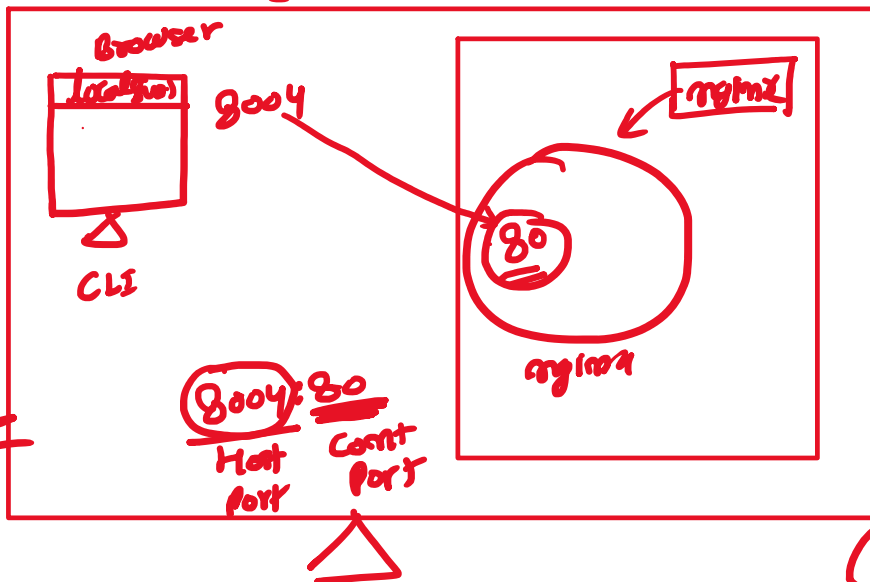
Docker run ubuntu
-it

Browser
localhost
CLI

8004

nginx

80

nginx

Docker
Images
are
Immutable

8004:80
Host
port

Cont
port

/bin/ksh
/bin/sh
/bin/bash

99

Build our own Docker Image / Push on Docker Hub

index ubuntu

docker build

httpd

Web-App

web-App → <u>Dockerfile</u>

DockerHub