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Docker hub path : [https://hub.docker.com/r/architsharma12/loan\\_app](https://hub.docker.com/r/architsharma12/loan_app)

Github : [https://github.com/architsharm/flask\\_demo2](https://github.com/architsharm/flask_demo2)

## Dockers & Containerization

Start at 9:05pm

⇒ We will be using code from last class → ban\_app

⊕ How many of you have faced cases →

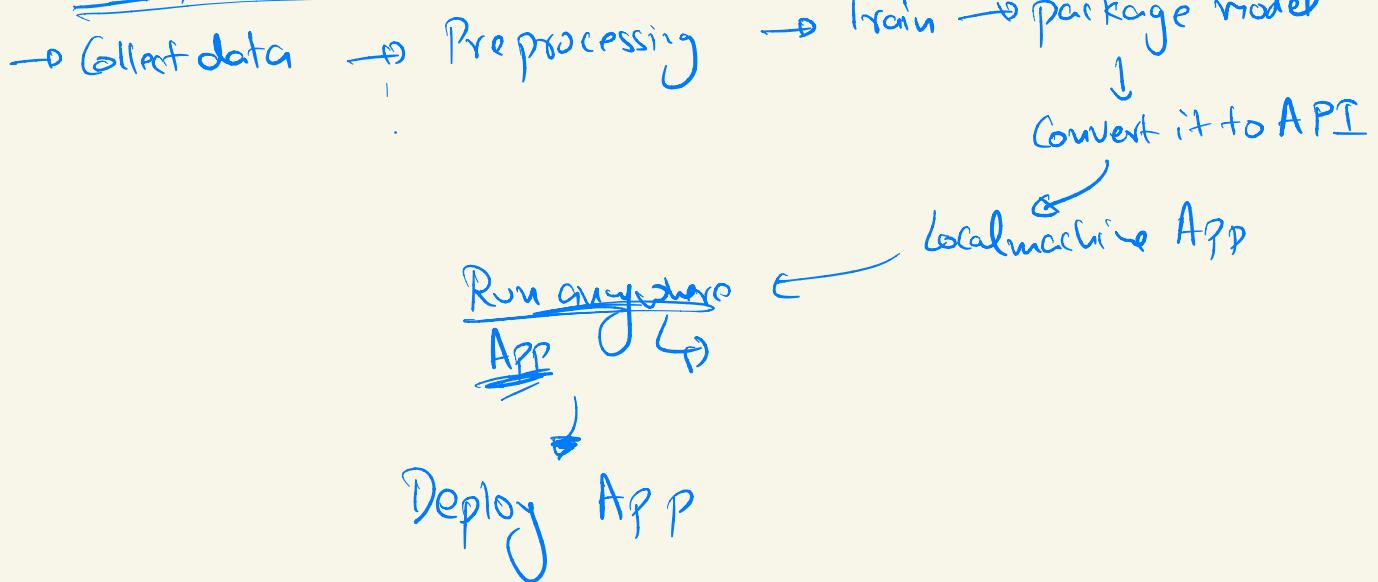
↳ Issues around deployment  
dependencies

Why this happens →

- 1) old libraries
- 2) version issues in dependencies
- 3) OS changes
- 4) System failure

⇒ Can we create something  
↳ which will run everywhere

## DS pipelines Step



⇒ Steps in deployment →

→ System  $\leftrightarrow$  physical , cloud based systems

- Install OS

- Install Softwares  $\rightarrow$  Python

- Bring/Copy Code in your System

- Install dependencies (packages, matplotlib, flask, ...)

- Run the application

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This is where Containers came into picture.

→

Container  $\rightarrow$  piece of software that virtually package and isolate application to make sure they run in any environment  $\rightarrow$

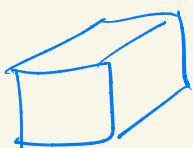
⇒ 16GB Ram }  
1 TB HDD }

Actual Laptop

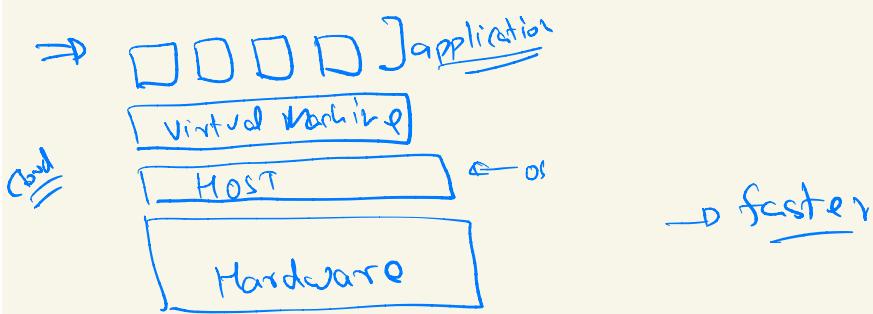
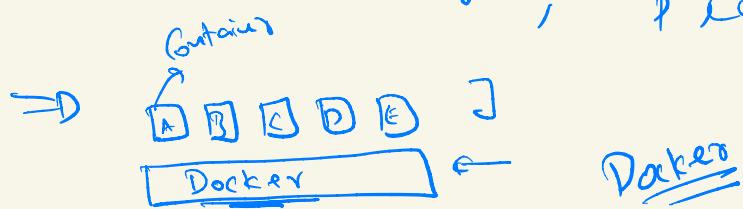
2GB  
100GB

Container

$\rightarrow$  will have all the things required to run your program/app

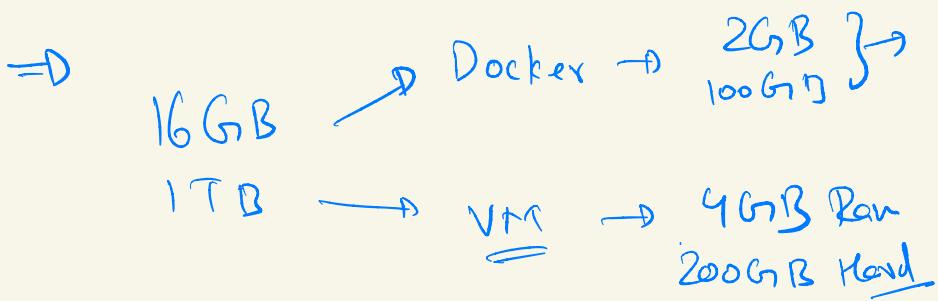


Docker → Platform/Software that is used to build, run, ship consistently w/o failure

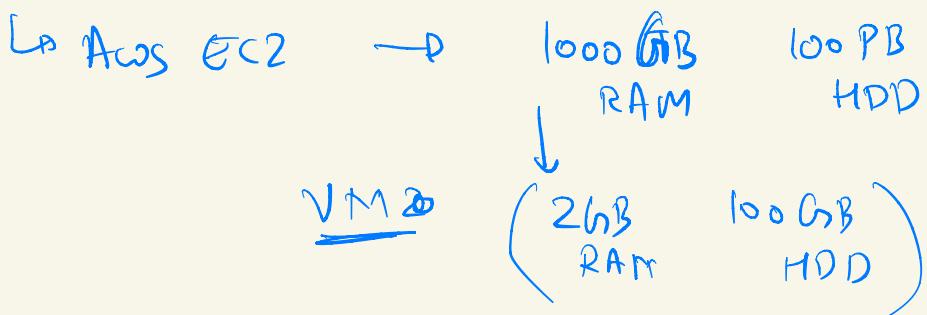


VMs

- Abstraction of H/w
- Full blown OS
- Take memory /diskspace from host →
- Slower to start



⇒ Most VMs are cloud based →



=D Docker →

→ Why choose docker over VM →

- → • Easy to use / setup

- Can be easily shared

- Light weight

VM →  
↓

Configure it  
↓  
reserved for me

=D Recall

install OS  
install python  
copy files  
install dependencies

(Set of instructions)

Image

Docker will  
create a Container

Run all these  
instructions

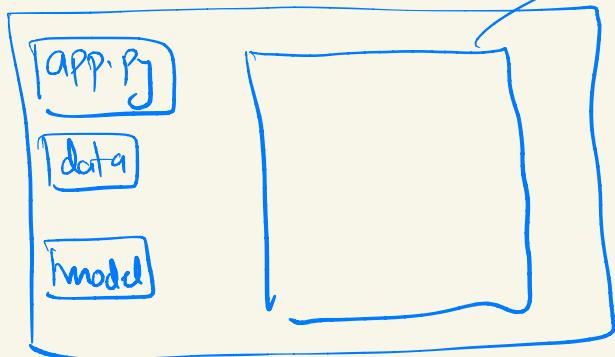
→ Building Image → Performing set of instruction.

Image  
set of instructions  
Blueprint

Container  
isolated env

Docker  
platform that  
helps in managing  
Containers

→ Workflow of Docker →



→ a new file in  
the same folder

→ Dockerfile

↳ write the basic  
Instructions

↓  
→ Build an Image ← (single line cmd)  
↓  
Run the Container  
↳ you get a file / container

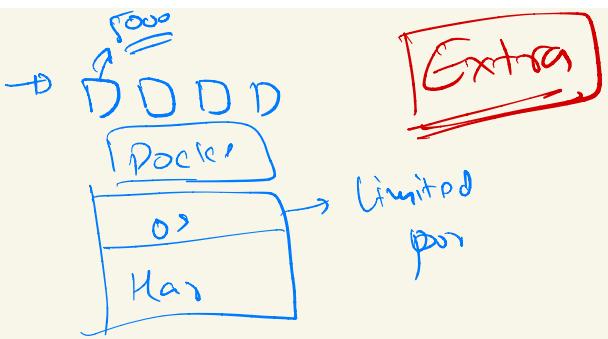
→ Building Image

" docker build -t my-app "

→ Run the Image

" docker run -d image-name"

" docker run -p 8000:5000 -d image-name"



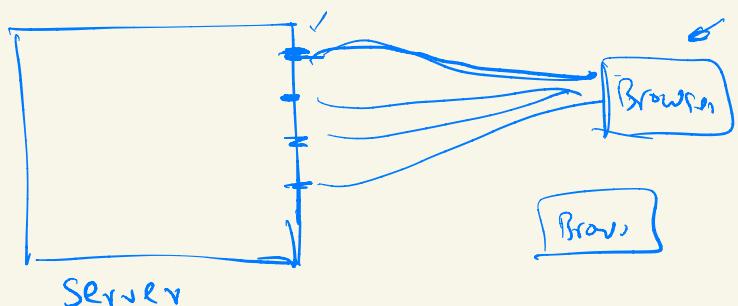
multiple model

→ loan app →

→ RS →

→ Gas 24 →

→ TS →



Serves

virtual place

- 1000

-

- 3000

-

-

⇒ Github → Place to store the code.

Github → VCS

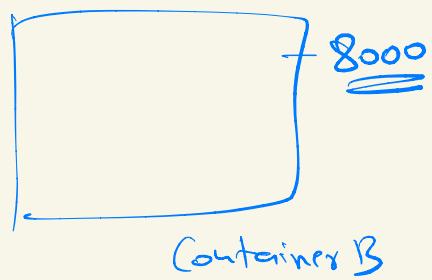
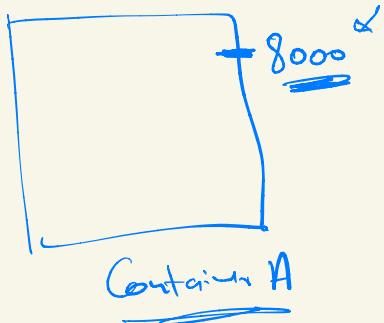
Dockerhub → Store the Code

docker pull architsharma12/loan\_app

docker run -p 8000:5000 -d architsharma12/loan\_app

Use docker save to export the image directly and save it anywhere

⇒



⇒

-p: ~~9500~~

-p: 9500:8000

127.0.0.1:9500 /predict ↓  
A

-p 7500:8000

127.0.0.1:7500 /predict ↓  
B