



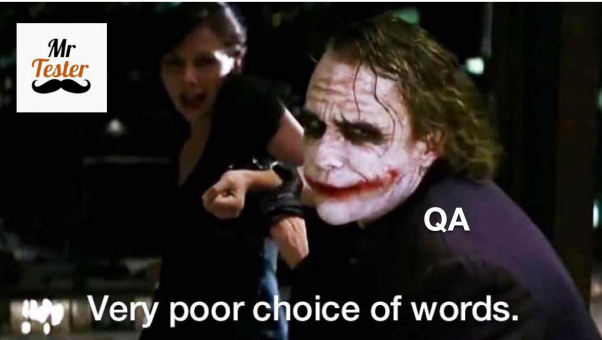
AGENDA

- ① What is Docker??
- ② Diff b/w Docker, Virtual machine and virtual environments.
- ③ Workflow of Docker
- ④ Docker hub

WHAT IS DOCKER

WHY WE NEED IT?

Dev: Works in my machine...



→ Diff reasons why it might not work.?

- ① Library Versions Package Incompatibility
- ② OS
- ③ Frontend
backend
Data base
IPL

Virtual Environment.

only caters to
python package
versions

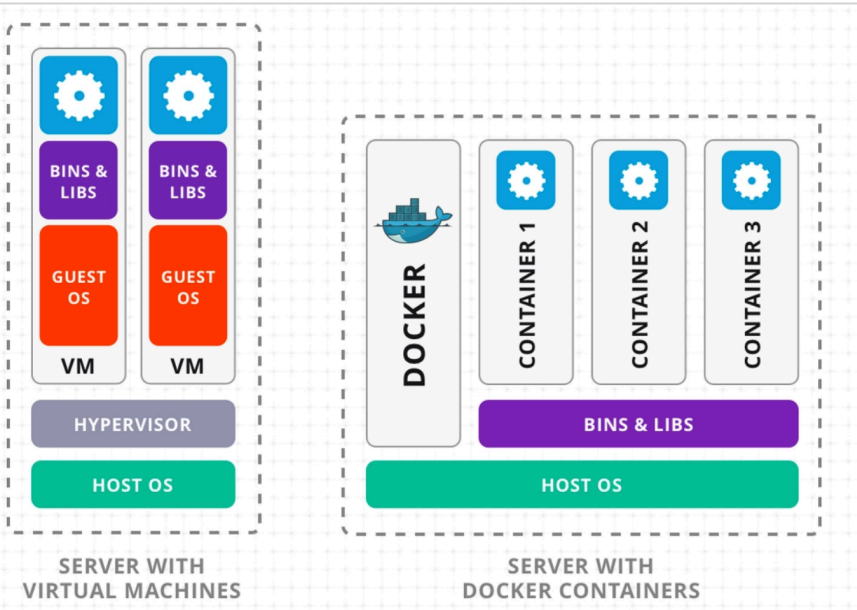
Docker → Isolated Environment / Container



DIFF B/w Virtual Machine

Virtual Environment

Docker Container



VM → Installs a complete OS

Also reserves some Ram & HDD

64 GB RAM
2 TB SSD

VM → Windows

(12 GB Ram, 50 GB SSD)

VM → Ubuntu

(12 GB Ram, 50 GB SSD)

16 GB \rightarrow VM (4 GB - Ram)

Pros:

1. Virtual Machines are extremely secure, isolated, and allows us to work on Diff OS.
2. If you're working on something very secretive/shady, then you may want to use Virtual Machine.

Cons:

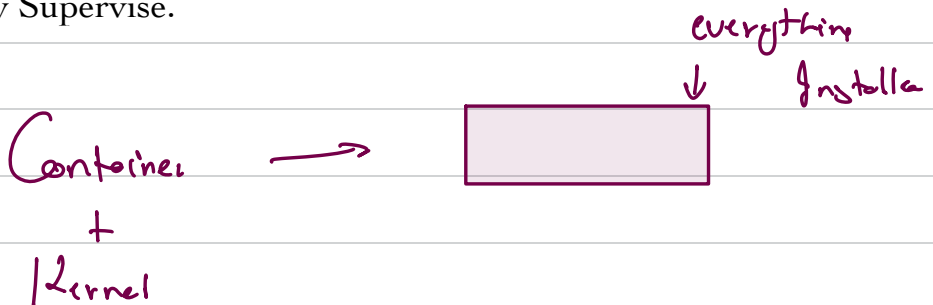
1. It's very heavy weight, and can cause performance issues, and sluggishness in both base OS and VM.

How Containers are diff than VM
Docker.

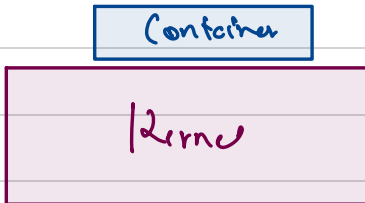
In Every Operating system, it has a kernel, it is the lowest level of software in your OS. It sits between your hardware and all the applications.

Some responsibilities:

1. Process management and scheduling.
2. Memory management, and like allocating RAM.
3. I/O handling.
4. Security Supervise.



Docker is Lot less Secure



Docker does not reserve any RAM or hard disk space when it runs a container. It uses it as much as it needs.

Quiz time!

Time Left: 55s

What does containerization primarily achieve?











0 users have participated

- ☐ A Optimization of graphical user interfaces 0%
- ☐ B Integration of hardware components 0%
- ☐ C Encryption of data transmission 0%
- ☒ D Packaging software with necessary dependencies for portability 0%

End Quiz Now

Leaderboard

Based on all quizzes from the session

Top Performers		
	Dinesh Patel	1/1 ⚡ 94.83
	Renu Singh	1/1 ⚡ 96.07
	kiran kumar	1/1 ⚡ 94.07
Full Leaderboard		
4	 Rajeev Ranjan Kumar Singh	1/1 ⚡ 93.60
5	 veera nachiketa	1/1 ⚡ 93.60
6	 Sagar Deka	1/1 ⚡ 93.57
7	 Gajanan Todeti	1/1 ⚡ 93.10
8	 Arindam Maji	1/1 ⚡ 92.47
9	 Akshara Shukla	1/1 ⚡ 92.10
10	 Praveen MC	1/1 ⚡ 89.37

Which technology provides a more lightweight approach to virtualization, allowing for faster deployment and efficient resource utilization between Docker and Virtual Machines (VMs)?









0 users have participated

- ☐ A Virtual Machines (VMs) 0%
- ☒ B Docker 0%
- ☐ C Both have identical deployment speed 0%
- ☐ D Neither allows for efficient resource utilization 0%

End Quiz Now

Leaderboard

Based on all quizzes from the session

Top Performers		
	Renu Singh	2/2 ⚡ 187.63
	Kiran Kumar	2/2 ⚡ 187.40
	Sagar Deka	2/2 ⚡ 186.53
Full Leaderboard		
1	 Rajaraman	2/2 ⚡ 182.37
2	 veera nachiketa	2/2 ⚡ 180.46
3	 Praveen MC	2/2 ⚡ 180.43
4	 Himanshu Rana	2/2 ⚡ 180.03
5	 Chirantan Sharma	2/2 ⚡ 161.90

Deployment Steps

1. Find some suitable cloud Environment (AWS, GCP, Azure, etc)
2. Install some OS -> Linux/Unix (you can even have MacOS, Windows)
3. Install dependencies and libraries (also front-end, backend, database, etc)
4. Copy the code from the repo, to the server (current cloud server)
5. Run the Code, and expose the URL/API.

Terminologies of Docker

1. DockerFile: Contains the instructions, of all the packages and codes and any and all relevant file needed for your application. (Recipe for application)
2. Using Dockerfile, you create something called "Docker Image"
3. Using DockerImage you create container (Executing the application, here application being the docker image) - Container is a Running Image.

In Docker, what does an "image" primarily represent?

0 users have participated

- A A snapshot of the running containers 0%
- B The underlying operating system of the host machine 0%
- ☒ C A static, standalone package containing application code and dependencies 0%
- D An encrypted file containing Docker configurations 0%

[End Quiz Now](#)

					
			Arindam Maji	Rajeev Ranjan K...	Himanshu Rana
			3/3 ⚡ 282.17	3/3 ⚡ 284.20	3/3 ⚡ 275.56
4	N	veera nachiketa	3/3 ⚡ 270.96		
5	MC	Praveen MC	3/3 ⚡ 259.63		
6	CS	Chirantan Sharma	3/3 ⚡ 243.73		
7	SD	Sagar Deka	2/3 ⚡ 188.53		
8	RS	Renu Singh	2/3 ⚡ 187.63		
9	K	kiran kumar	2/3 ⚡ 187.40		
10	R	Rajaraman	2/3 ⚡ 182.37		

