Vision

Co-Creating a Technology Advanced Greener Planet

Mission ESDS 4 B's

by 2027

1Billion

Connecting a billion people

1Billion

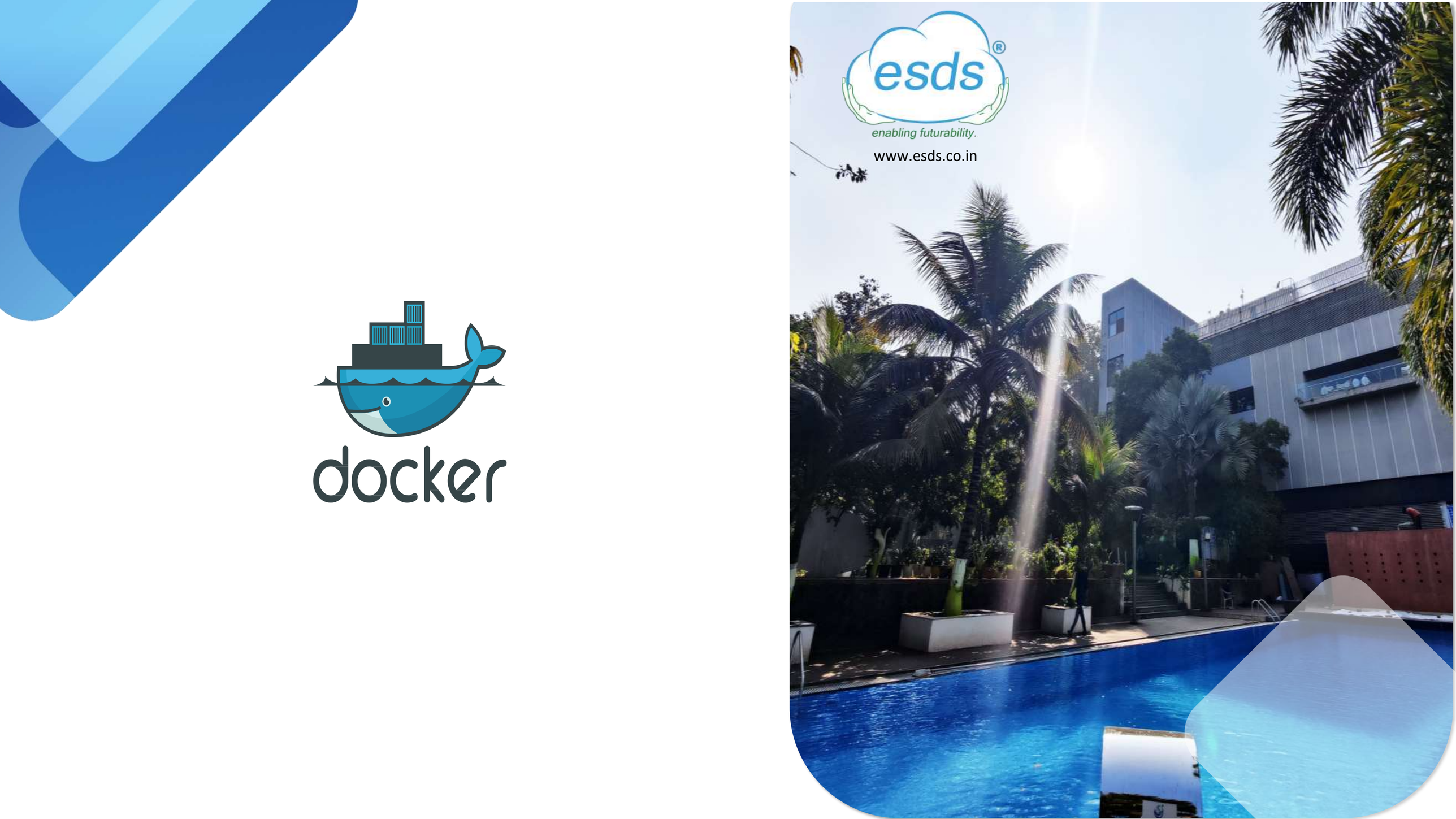
Connecting a billion Smart Devices

1Billion

Achieving $1B turnover

1Billion

Planting 1 Billion trees



docker

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Overview

- What is Docker and Why?
- What are Containers?
- How Container Works?

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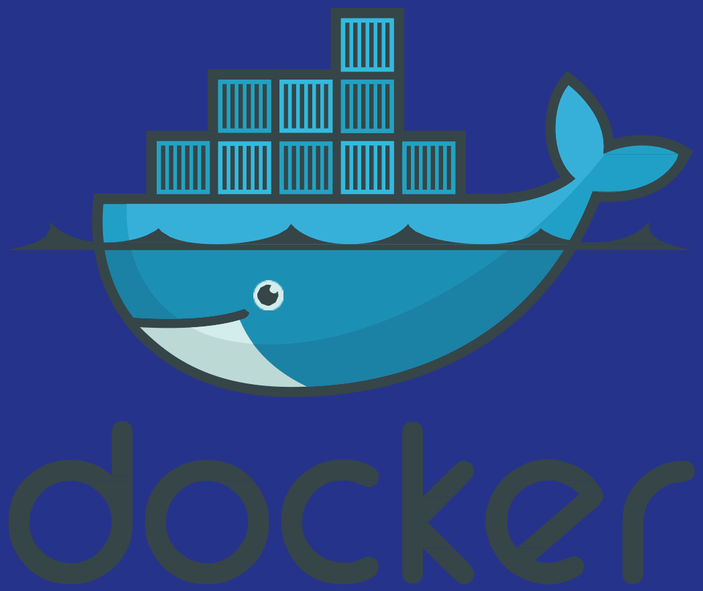
What is a Docker?



What is a Docker?

- Docker is a containerization platform for developing, packaging, shipping, and running applications.

- It provides the ability to run an application in an isolated environment called a container.
- Makes deployment and development efficient.

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Why do we need Docker?

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Developer

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Working Successfully

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Working Successfully

Let me test on my machine

Tester

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Developer

Tester

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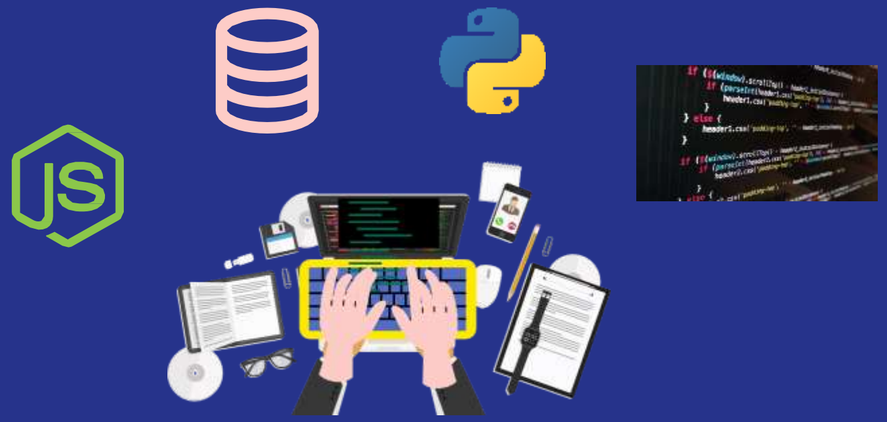

Developer

Tester

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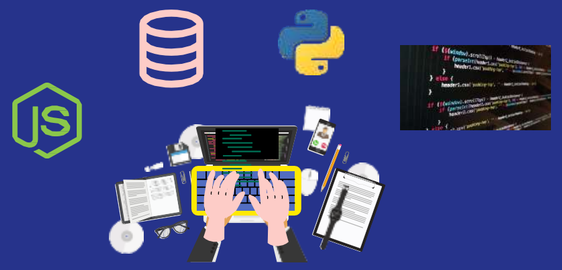

Developer

But it is working on my machine

Tester

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What is the solution now?

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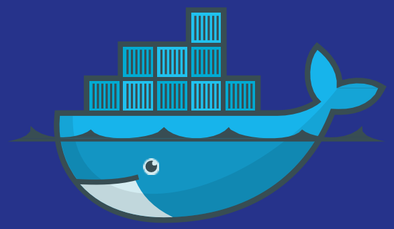
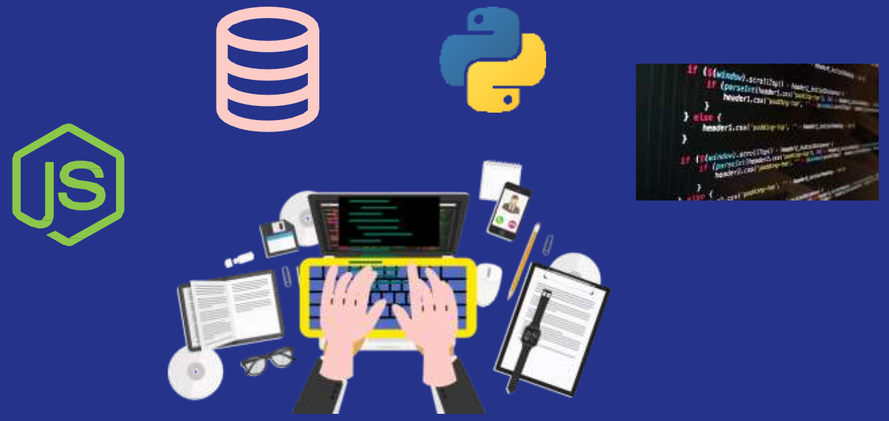
No worries
We have
Docker



Developer

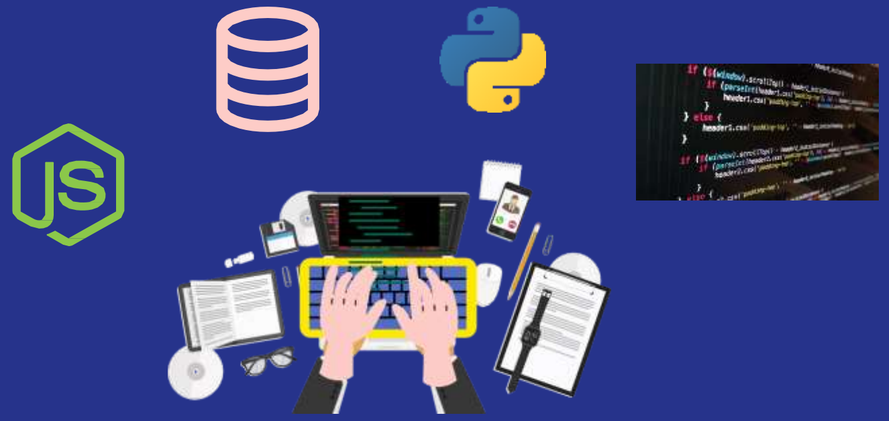
Developer

Packaging
Docker Image



Developer

Tester



Developer

Tester

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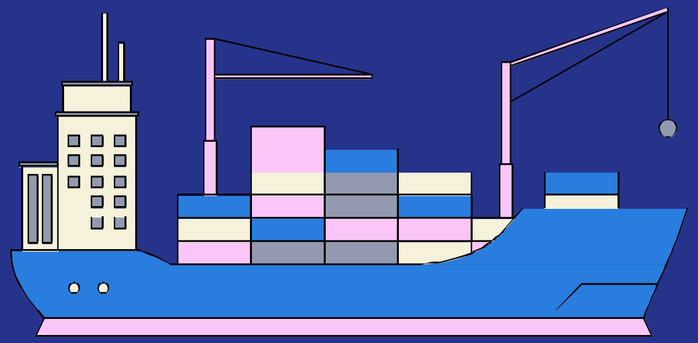
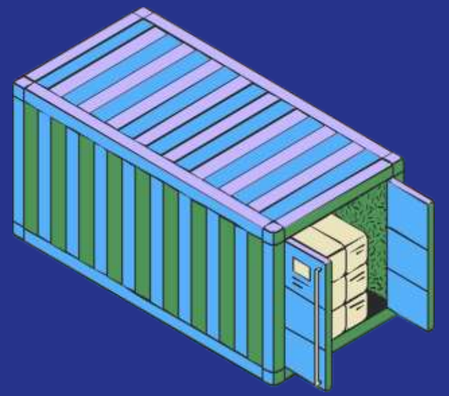
How did it work?

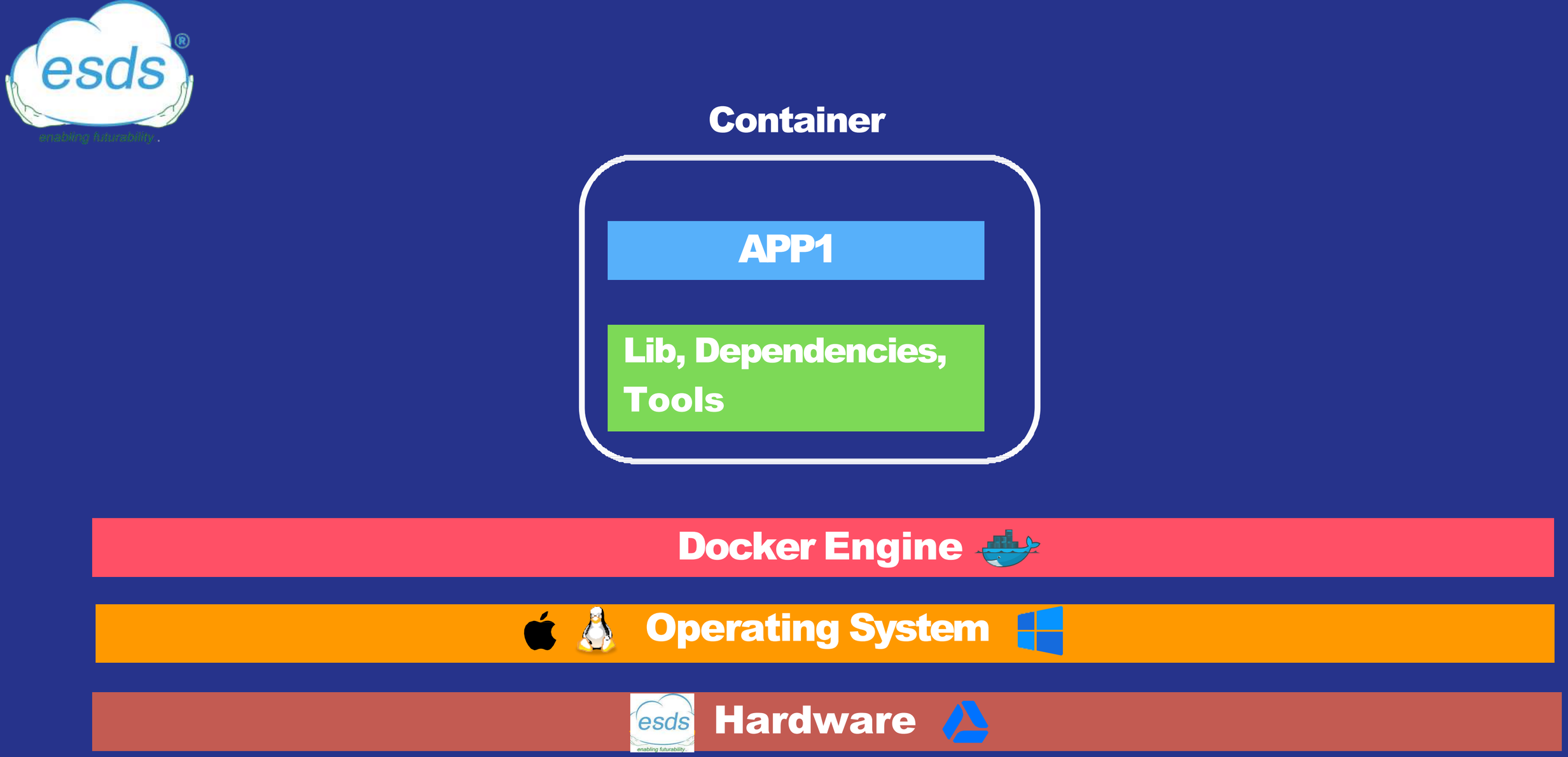
What is a Container?

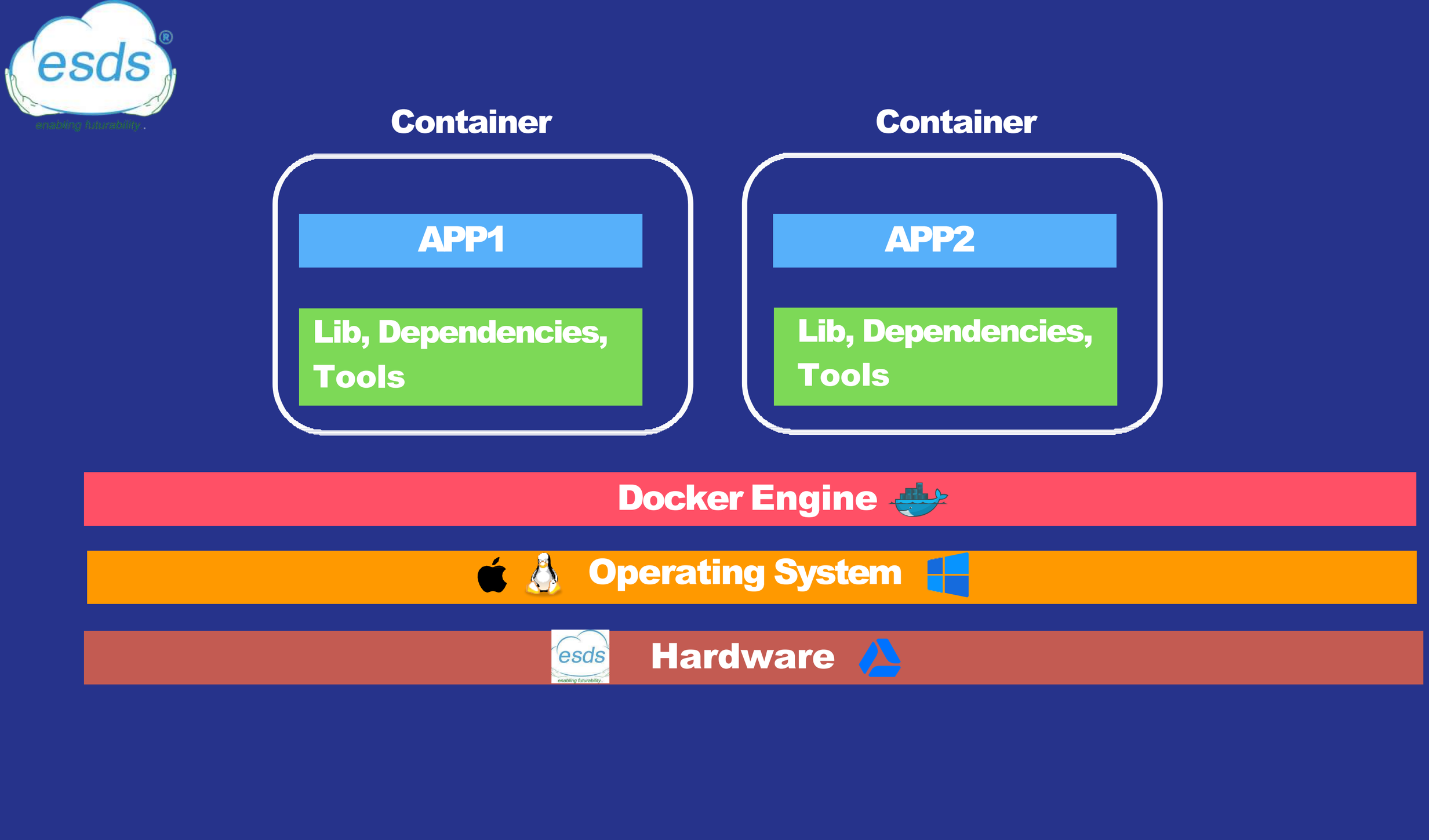


What is a Container?



- A way to package an application with all the necessary dependencies and configuration.
- It can be easily shared
- Makes deployment and development efficient.


Container
APP1
Lib, Dependencies, Tools
Docker Engine
Operating System
Hardware


Container
Container
APP1
APP2
Lib, Dependencies, Tools
Lib, Dependencies, Tools
Docker Engine
Operating System
Hardware

Container

APP1

Lib, Dependencies, Tools

Container

APP2

Lib, Dependencies, Tools

Container

APP3

Lib, Dependencies, Tools

Docker Engine

Operating System

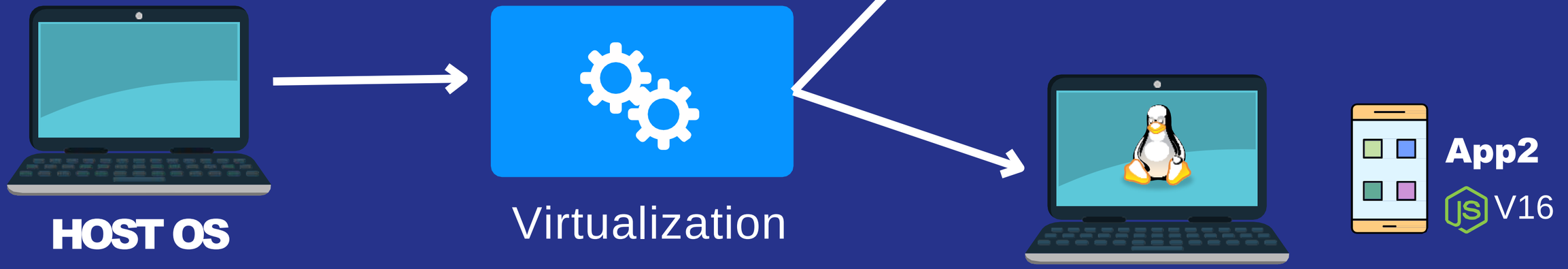
Hardware

App1

V14

App2

V16


HOST OS
Virtualization
App1
V14
App2
V16

Container

APP1

V14

Container

APP2

V16

Docker Engine

Operating System

aws

Hardware

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Docker vs VMs

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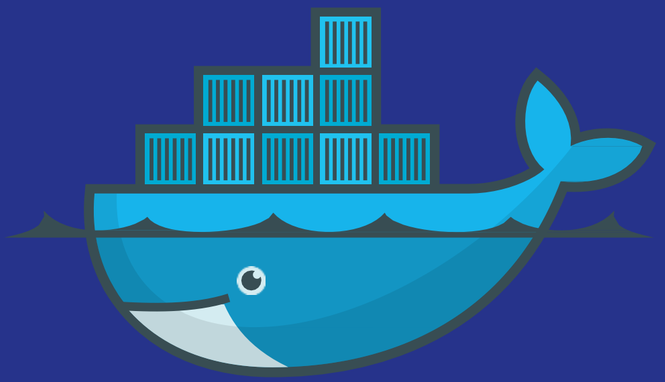
Docker Containers	VMs
Low impact on OS, very fast, low disk space usage	High impact on OS, slower, high disk space usage
Sharing, re-building and distribution is easy	Sharing, re-building and distribution is challenging
Encapsulate apps instead of whole machine	Encapsulate whole machine

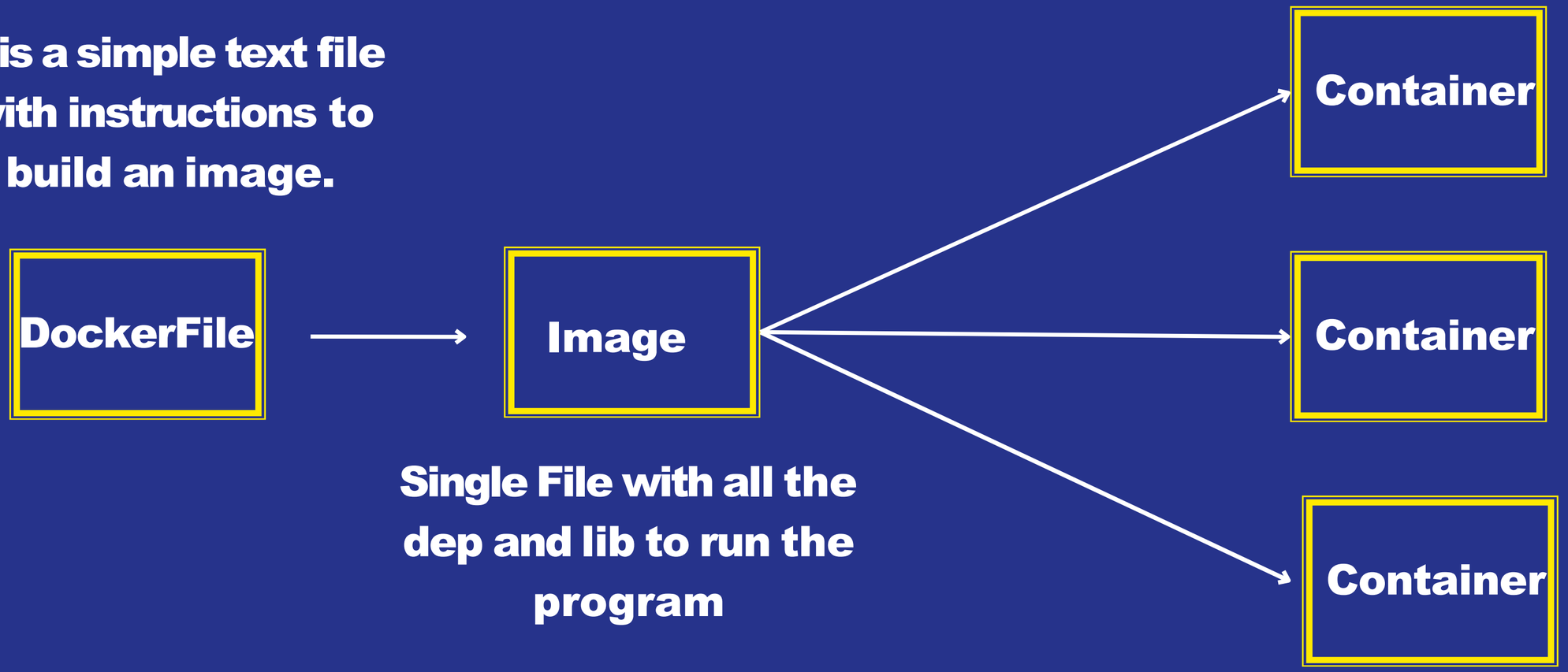
Main components of Docker

- DockerFile
- Docker Image
- Docker Container
- Docker Registry



Instance of an Image

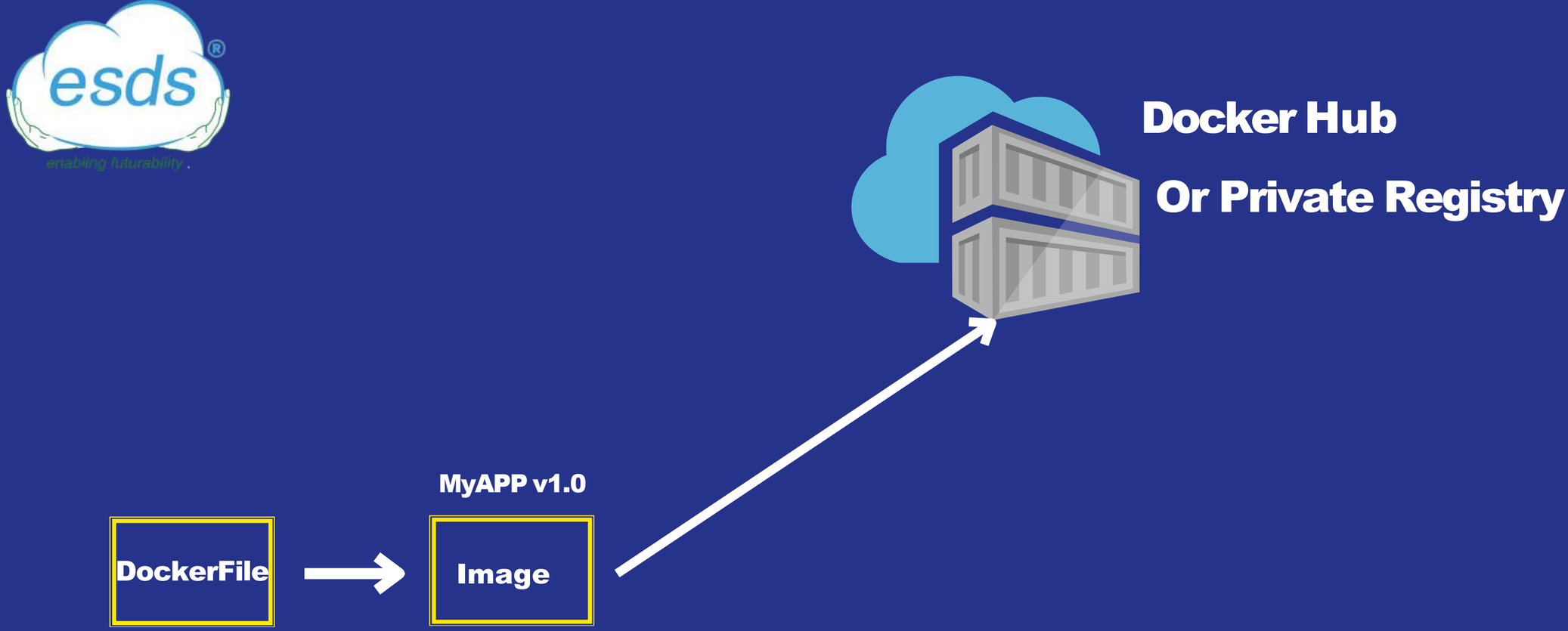
It is a simple text file with instructions to build an image.



Single File with all the dep and lib to run the program

Docker Registry

A Docker registry is a central repository for storing and distributing Docker images.


Docker Hub
Or Private Registry
MyAPP v1.0
DockerFile
Image

Docker Hub

Or Private Registry

MyAPP v1.0

DockerFile → Image

Conclusion:

- Docker is a powerful technology that allows developers to create, package, and deploy applications in containers.
- It provides a consistent environment for development, testing, and deployment, and it's compatible with any platform that supports Docker.
- By using Docker, developers can focus on building great applications instead of worrying about infrastructure and compatibility issues.

Thank you!