



.... It's All About Cloud

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# Agenda

- Cloud Computing
- Docker
- MicroServices
- Kubernetes

# Cloud Computing?

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- Cloud computing is the **on-demand** availability of computer system resources

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- Cloud computing is the **on-demand** availability of computer system resources
- What does cloud provide ?

***Service !!!***

# Cloud Computing?

- Cloud computing is the **on-demand** availability of computer system resources
- What does cloud provide ?
- Onprem Vs Cloud



## On-Premises



## IaaS

Infrastructure as a Service



## PaaS

Platform as a Service

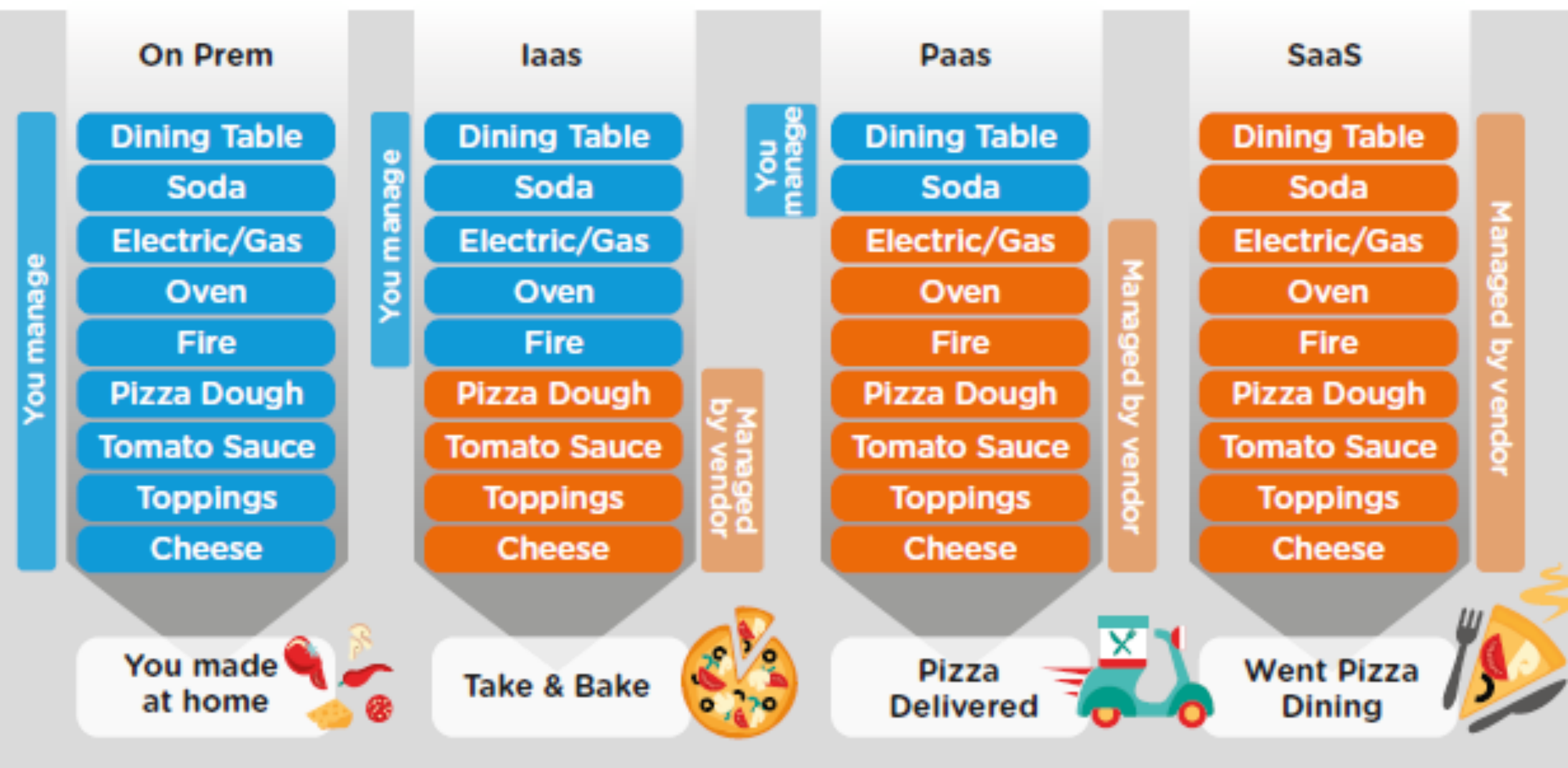


## SaaS

Software as a Service

Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking





# Software-as-a-Service

- Example - All Google apps : Gmail, Drive, calendars, photos

# Platform-as-a-Service

- Platform as Service ???
- Runtime, OS
- Example : Docker

# InfraStructure-as-a-Service

- InfraStructure as a Service ??
- Example : Kubernetes

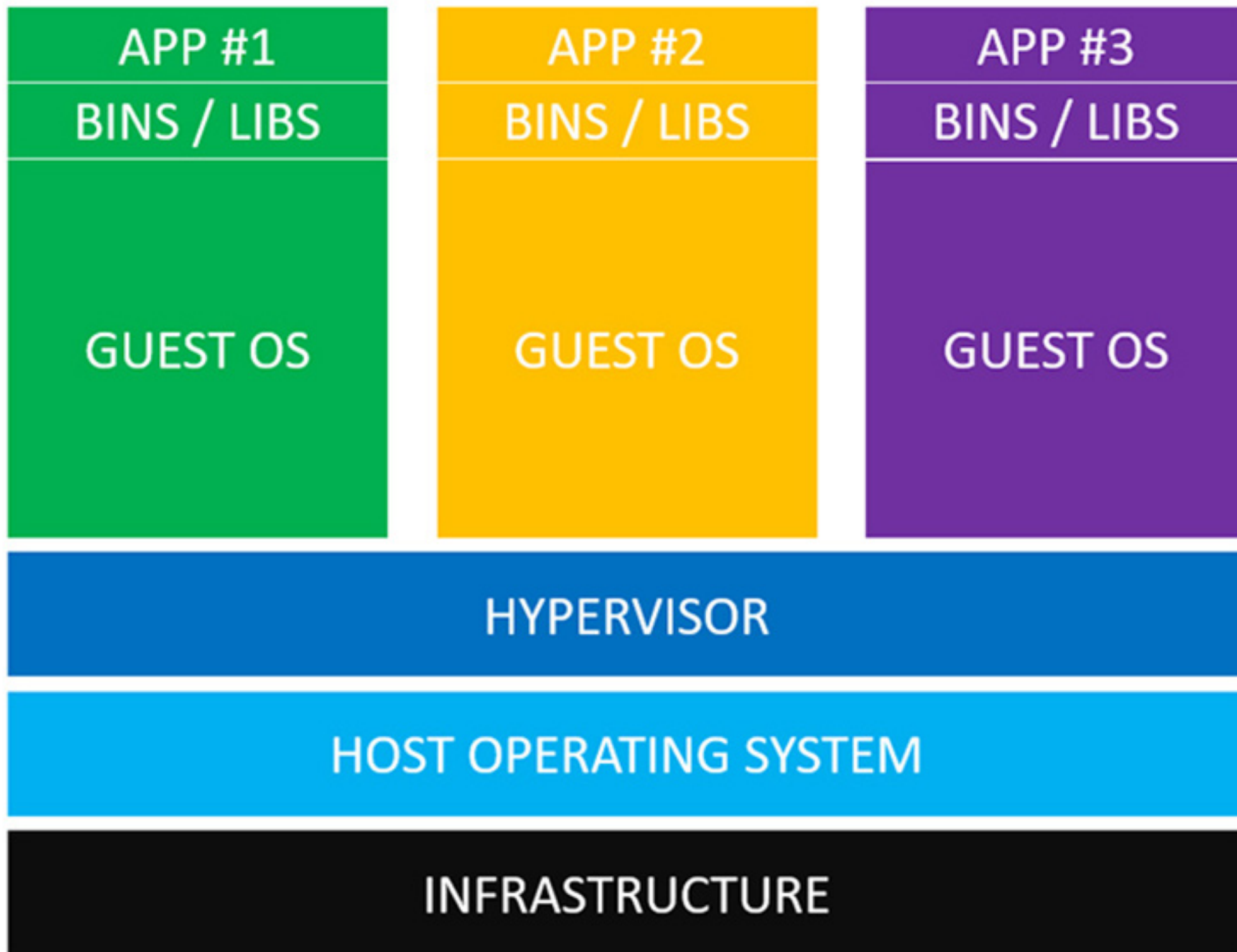
# ...in NutShell

- SaaS - Packages Software Gmail
- PaaS - OS & application stack - IBM cloud, Heroku
- IaaS - VM, Server, storage, networks

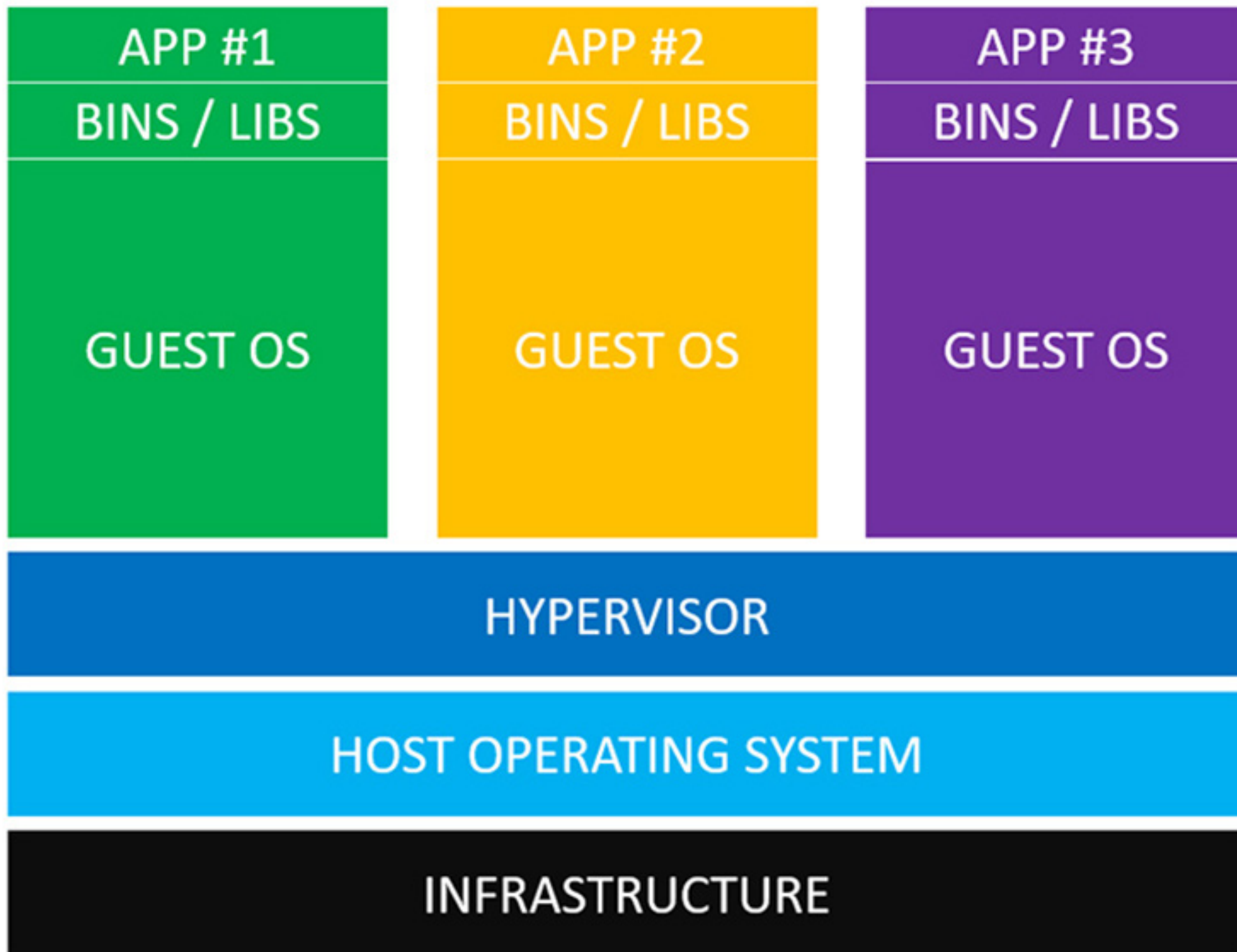
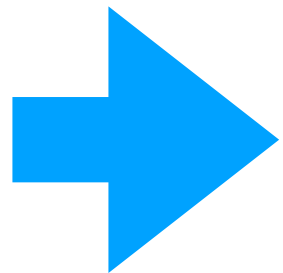
Virtual Machine ?

# Virtual Machine

- Virtual machines are software computers that provide the same functionality as physical computers. Like physical computers, they run applications and an operating system. However, **virtual machines are computer files** that run on a physical computer and behave like a physical compute







# Docker

- What is Docker ?

# Docker

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# Docker

- What is Docker ?

Docker is a containerisation platform that packages your application and all its dependencies together in the form of a docker container to ensure that your application works seamlessly in any environment.

# Docker

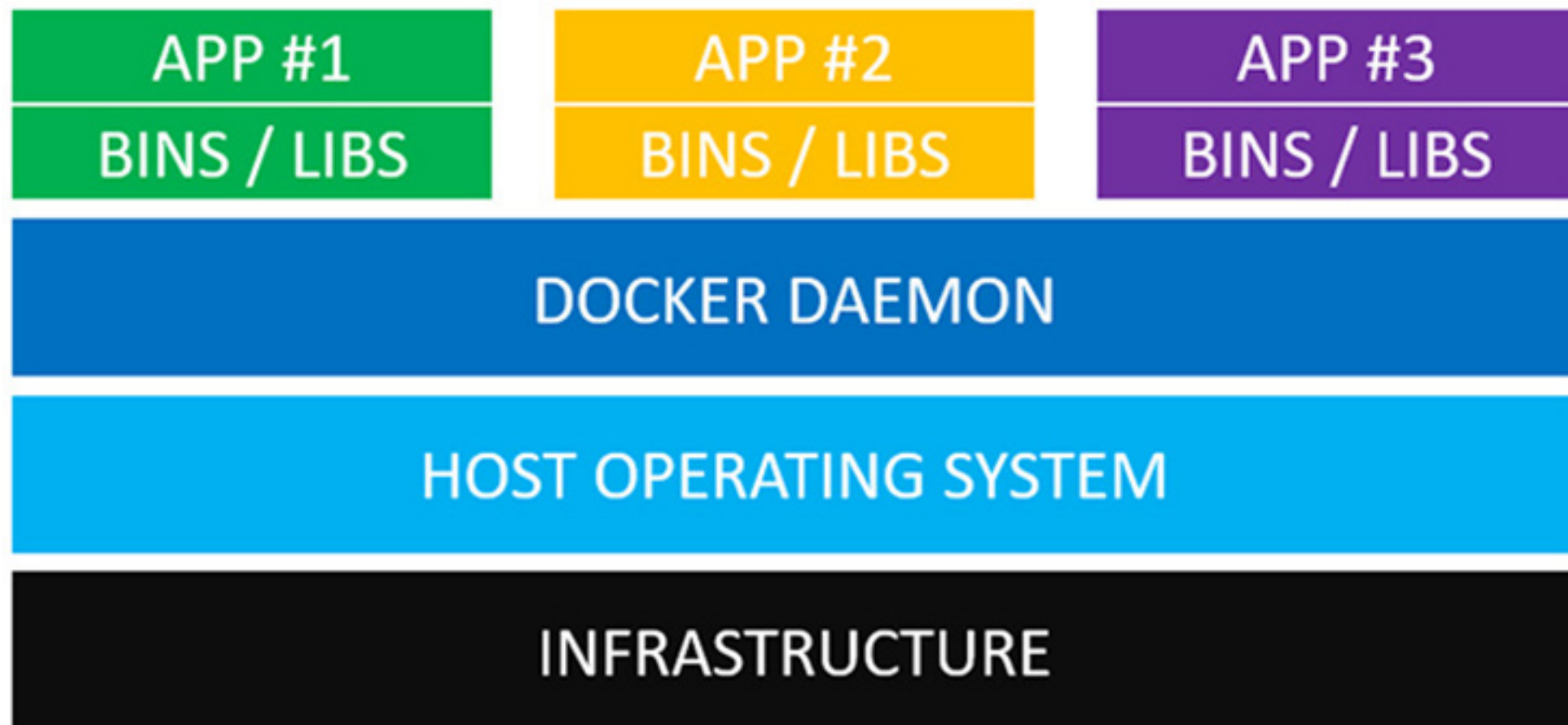
- What is Docker ?
- What is Container ?

# Docker

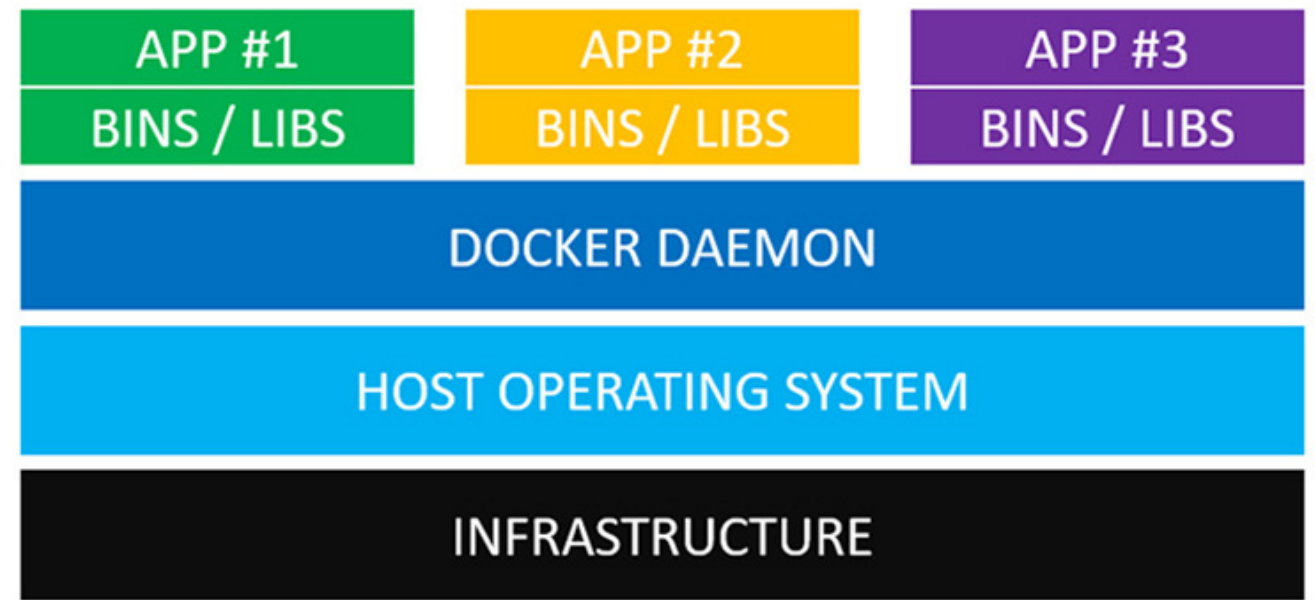
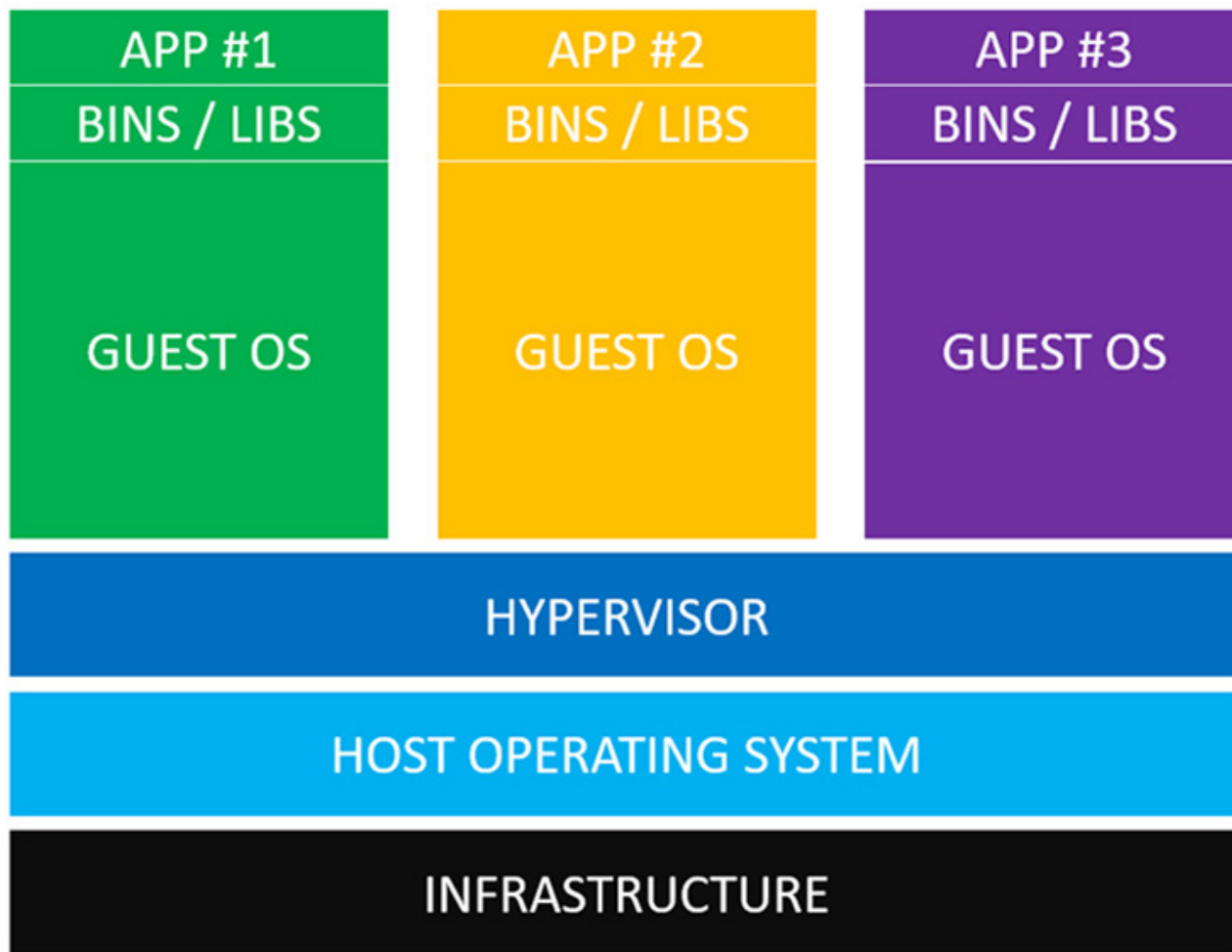
- What is Docker ?
- What is Container ?

Docker Container is a standardised unit which can be created on the fly to deploy a particular application or environment

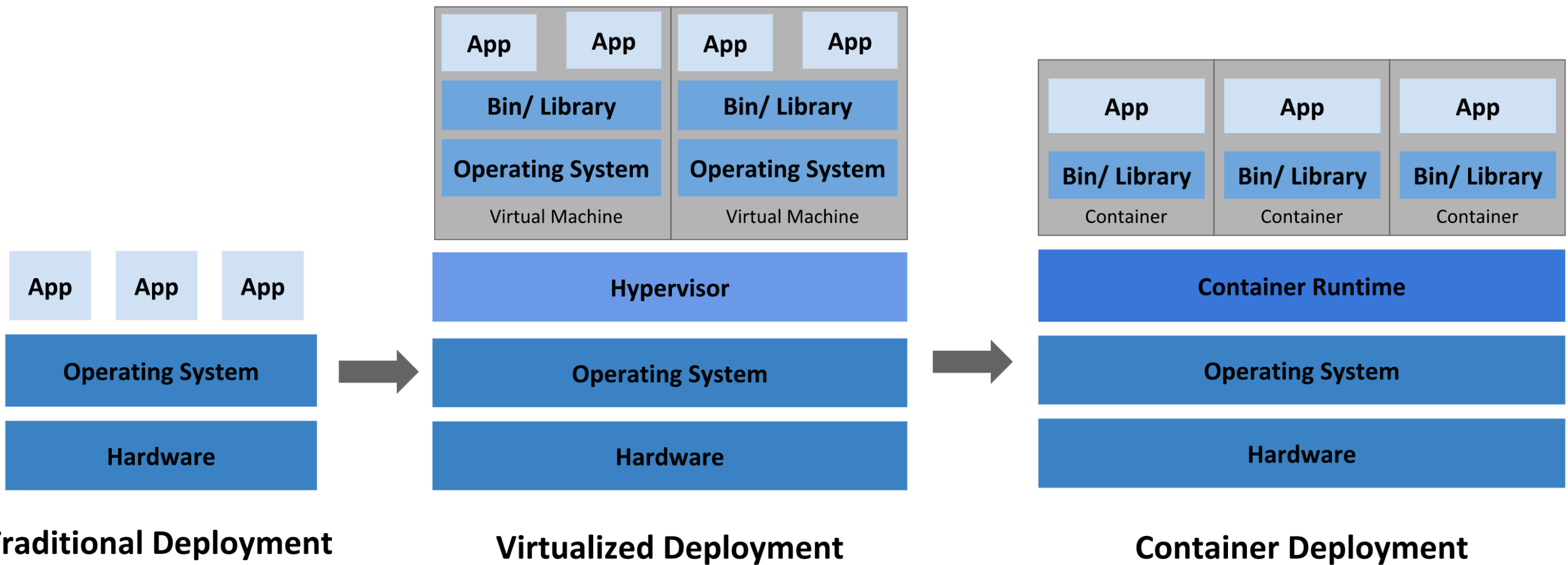
# Docker Architecture



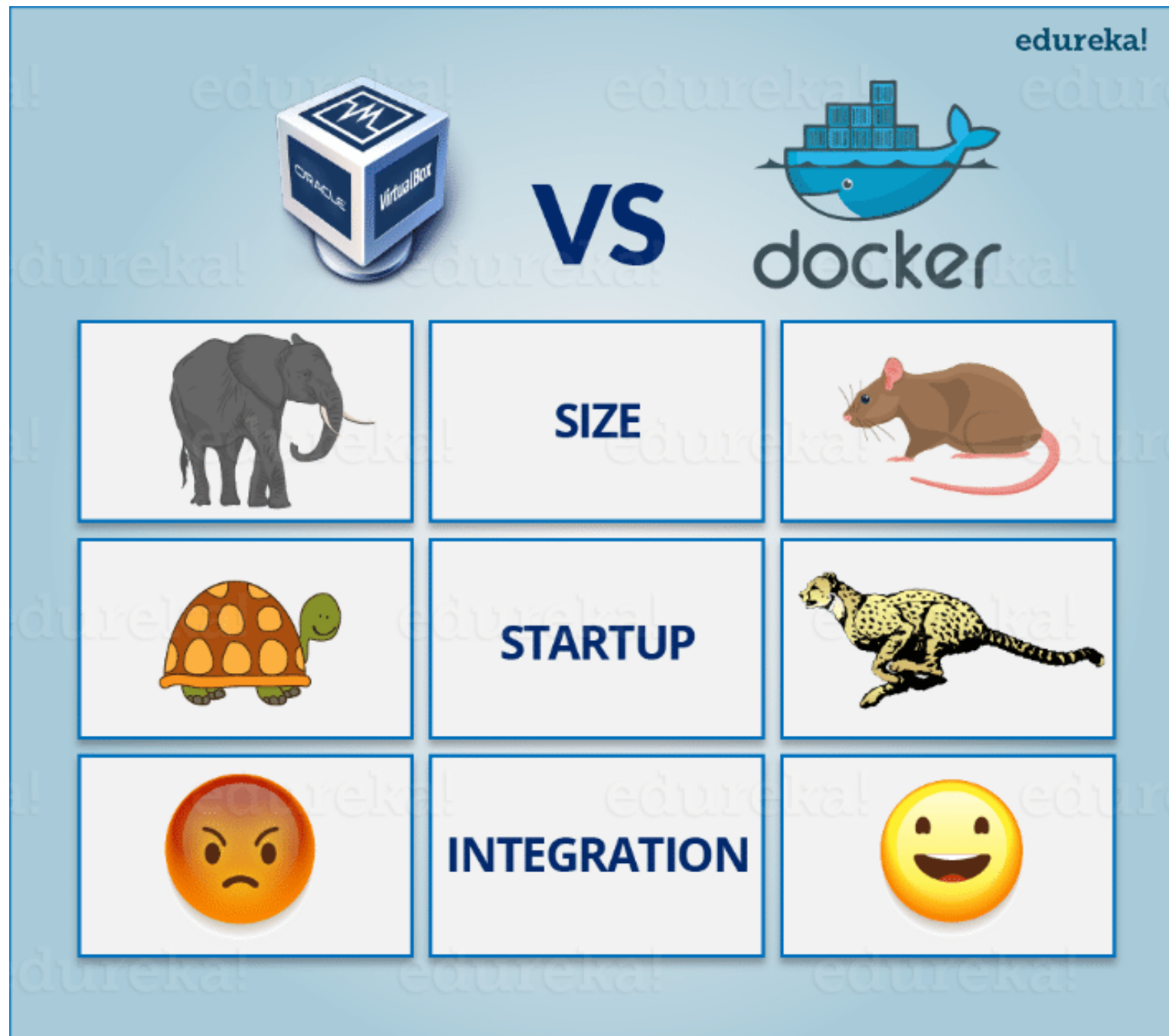
# VM vs Docker







# VM vs Docker

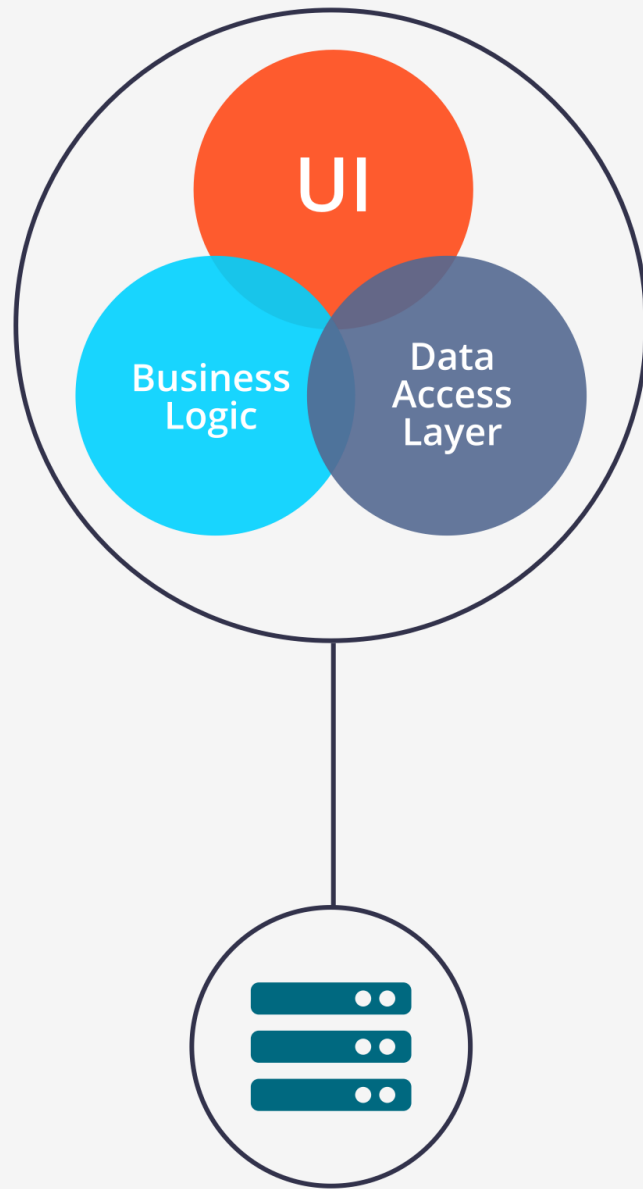


# Lets Dive into Docker

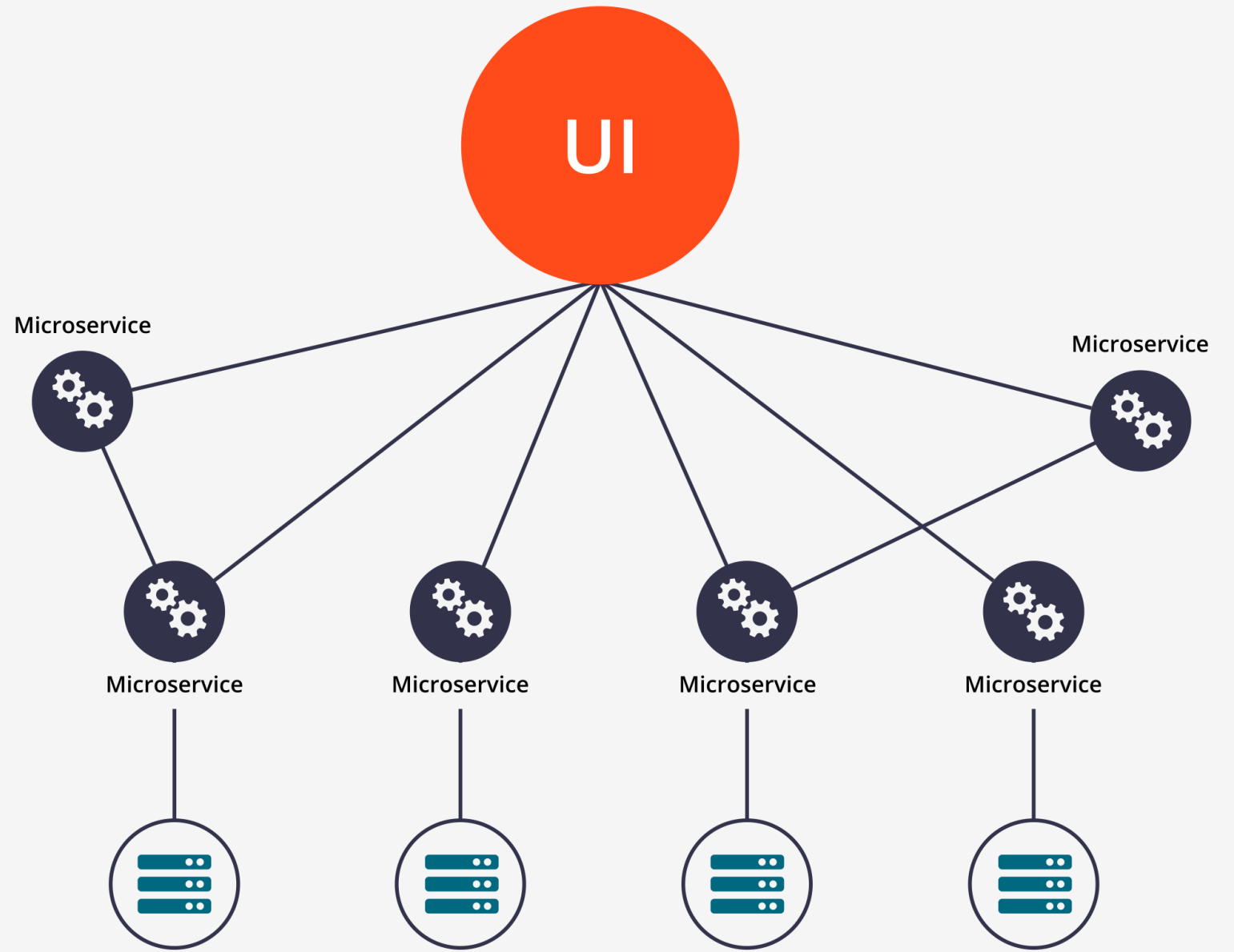
- Creating a docker image
- Running a Docker Image
- Example

# Monolithic vs MicroServices

- Monolithic and Microservice
- Example jar dependency conflicts

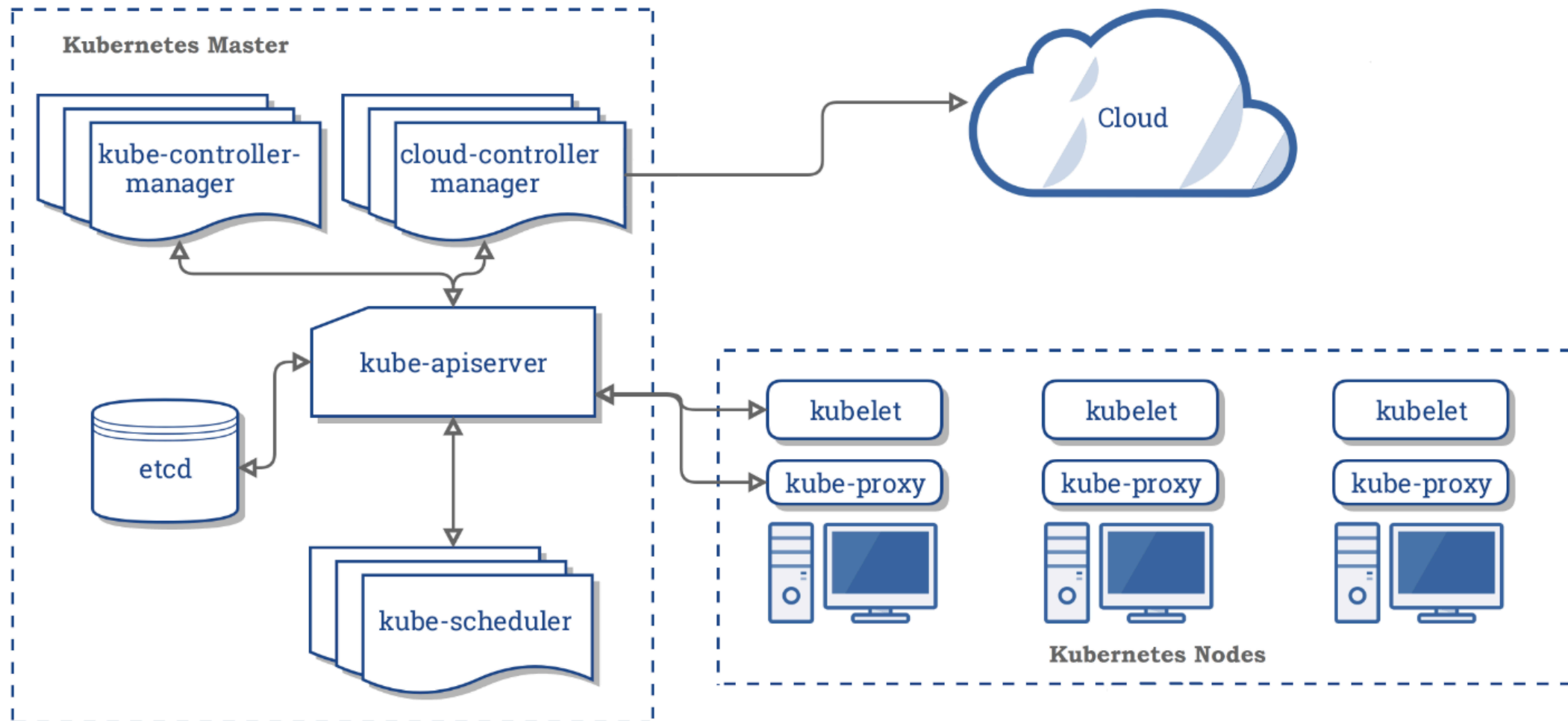


Monolithic Architecture



Microservice Architecture

# Kubernetes



The Kubernetes container orchestration system safely manages the structure and flow of a distributed application, organizing containers and services for maximum efficiency. Kubernetes serves as an operating system for your clusters, eliminating the need to factor the underlying network and server infrastructure into your designs.