Microsoft

Refreshing your web app with containerization

Jirachai Chansivanon
Digital Sale Enterprise

Microsoft

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Agenda

- Understand the container technology
- How the container works?
- When we will and will not use the container?
- Show time – Let deploy the container!

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Jirachai Chansivanon (Job)

Digital Sale Enterprise

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Jirachai Chansivanon (Job)

Digital Sale Enterprise

- Former Full-stack web developer
- Former Microsoft Learn Student Ambassador FY18-19
- Former Associate Cloud Solution Architect @Microsoft
- Typescript / Javascript Lover ♡
- Azure Community Lead

Anthony Chedid
Digital Specialist Manager - APAC

Jirachai Chansivanon (Job)
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TBH
Digital App & Infra Specialist

Orapin Anonthanasap (Fon)
Digital Data & AI Specialist

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Digital Data & AI Specialist

From data to LINE chatbot in minutes with Microsoft Azure

Jirachai Chansivanon
Digital Specialist,
Microsoft Thailand

Phantip Kokilanon
Community Lead,
Microsoft Thailand

https://youtu.be/zfy6B08K_Ik

Azure Base Camp

Microsoft Thailand

Learn more

https://aka.ms/abcth

Understand the container technology

Understand the container technology
(แบบคร่าว ๆ)

User A

Program / Code

Native Lib **(.dylib)**

Runtime
(NodeJS for macOS)

OS (macOS)

User A

Program / Code

Native Lib **(.dylib)**

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User A

Program / Code

Native Lib **(.dylib)**

Runtime
(NodeJS for macOS)

OS (macOS)

User B

Program / Code

Native Lib **(.dll)**

Runtime
(NodeJS for Windows)

OS (Windows)

User A

Program / Code

Native Lib **(.dylib)**

Runtime
(NodeJS for macOS)

OS (macOS)

User B

Program / Code

Native Lib **(.dll)**

Runtime
(NodeJS for Windows)

OS (Windows)

Production Server

Program / Code

Native Lib **(.so)**

Runtime
(NodeJS for Linux)

OS (Debian Linux)

User A	User B	Production Server
Program / Code	Program / Code	Program / Code
File System / I/O	**File System / I/O**	**File System / I/O**
Kernel (NT)	**Kernel (Darwin)**	**Kernel (Linux)**
Native Lib **(.dylib)**	Native Lib **(.dll)**	Native Lib **(.so)**
Runtime (NodeJS for macOS)	Runtime (NodeJS for Windows)	Runtime (NodeJS for Linux)
OS (macOS)	OS (Windows)	OS (Debian Linux)

Runtime 2

Runtime 1

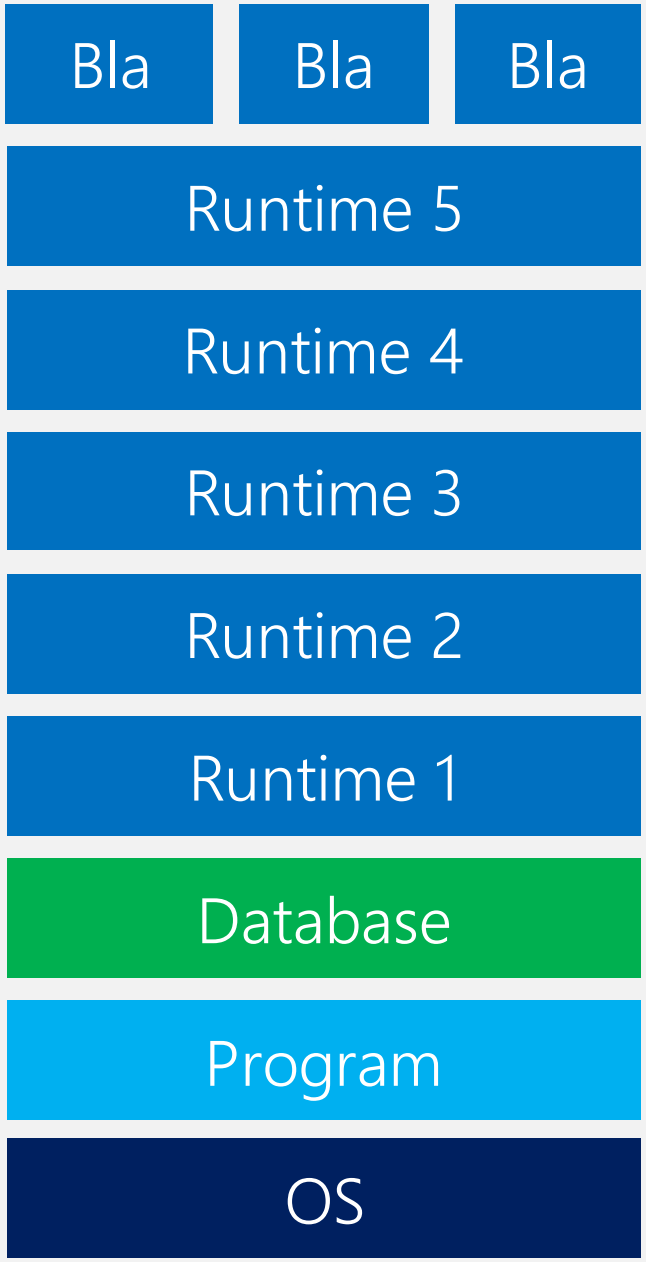
Database

Program

OS

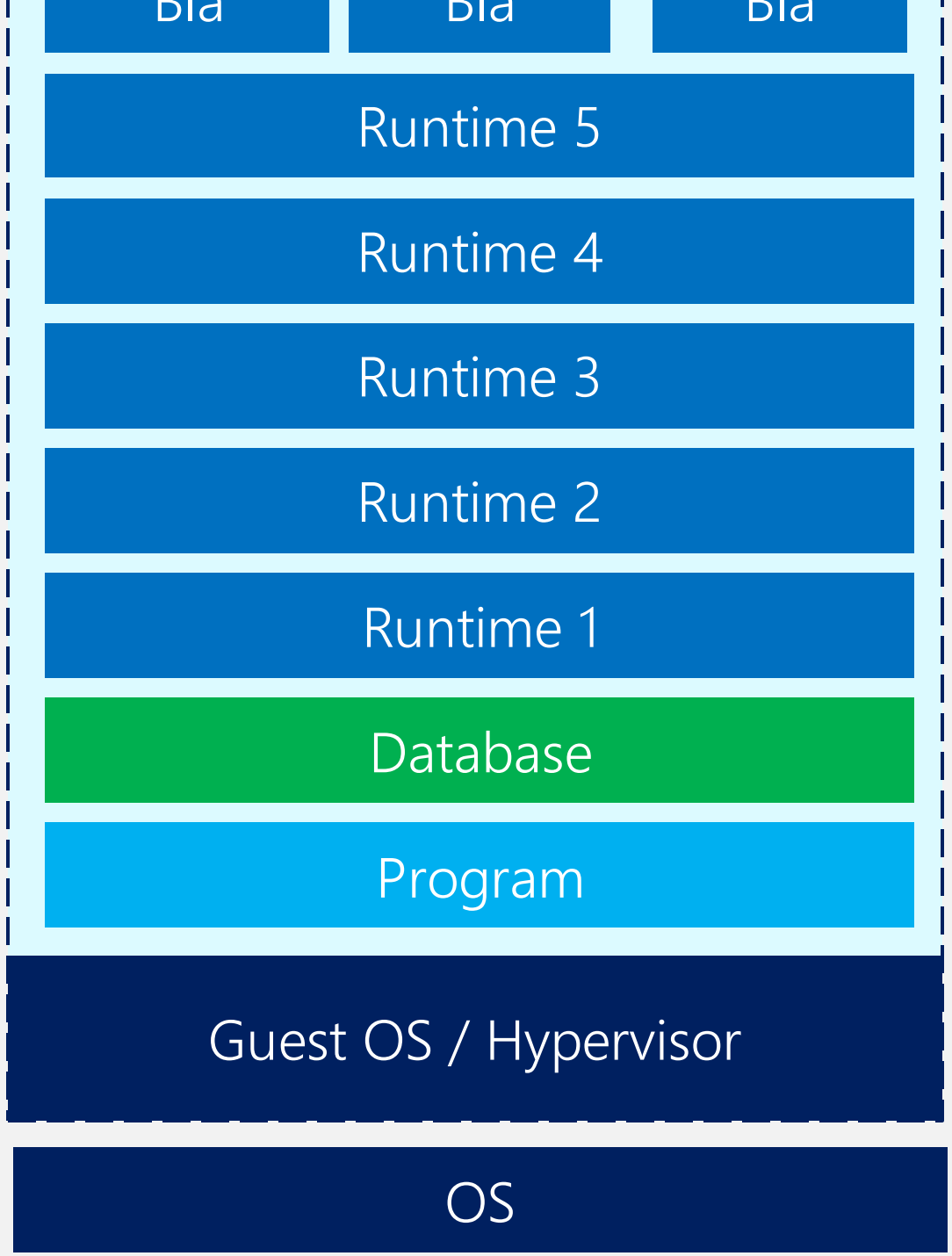
Native

Host Machine

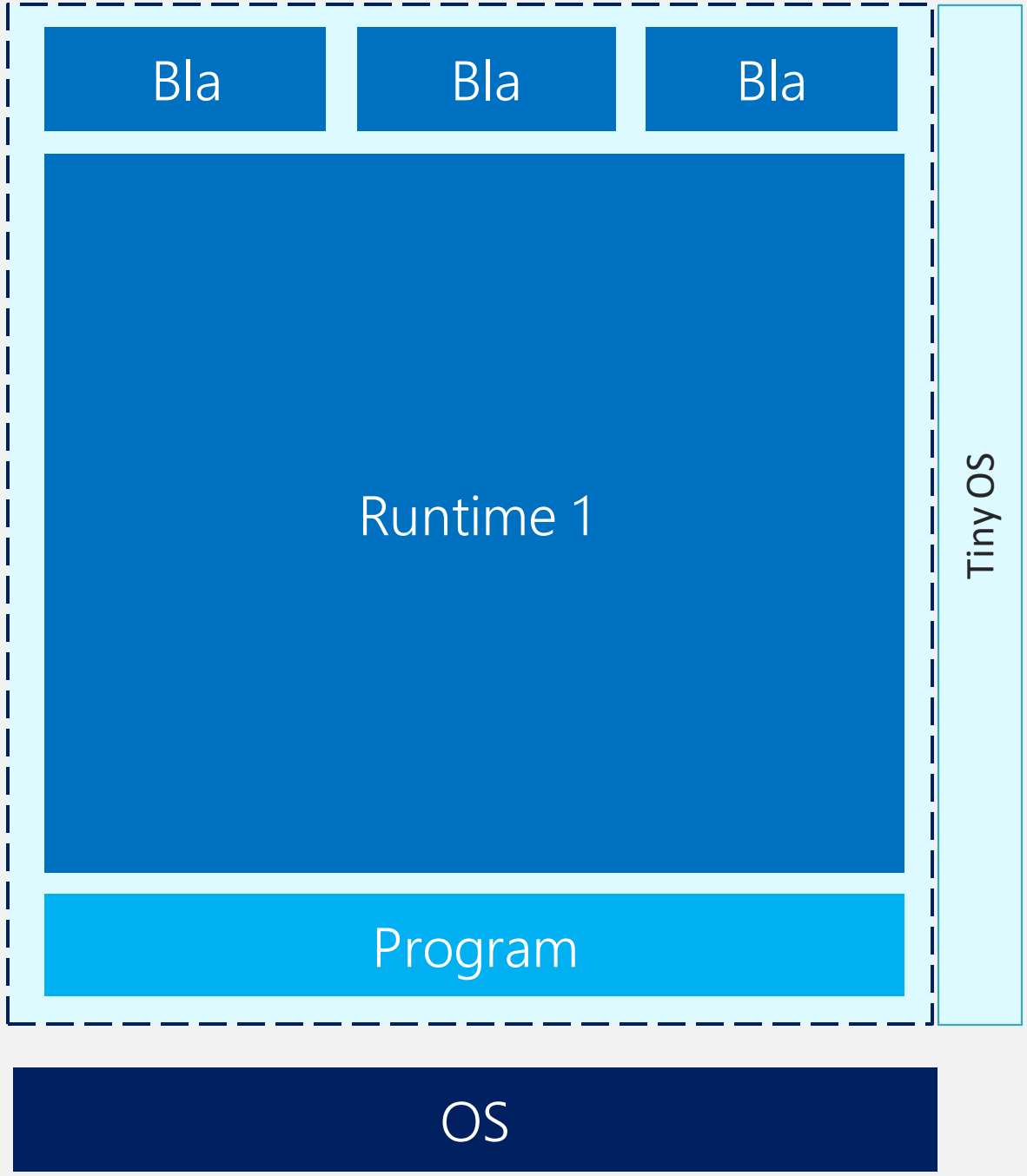


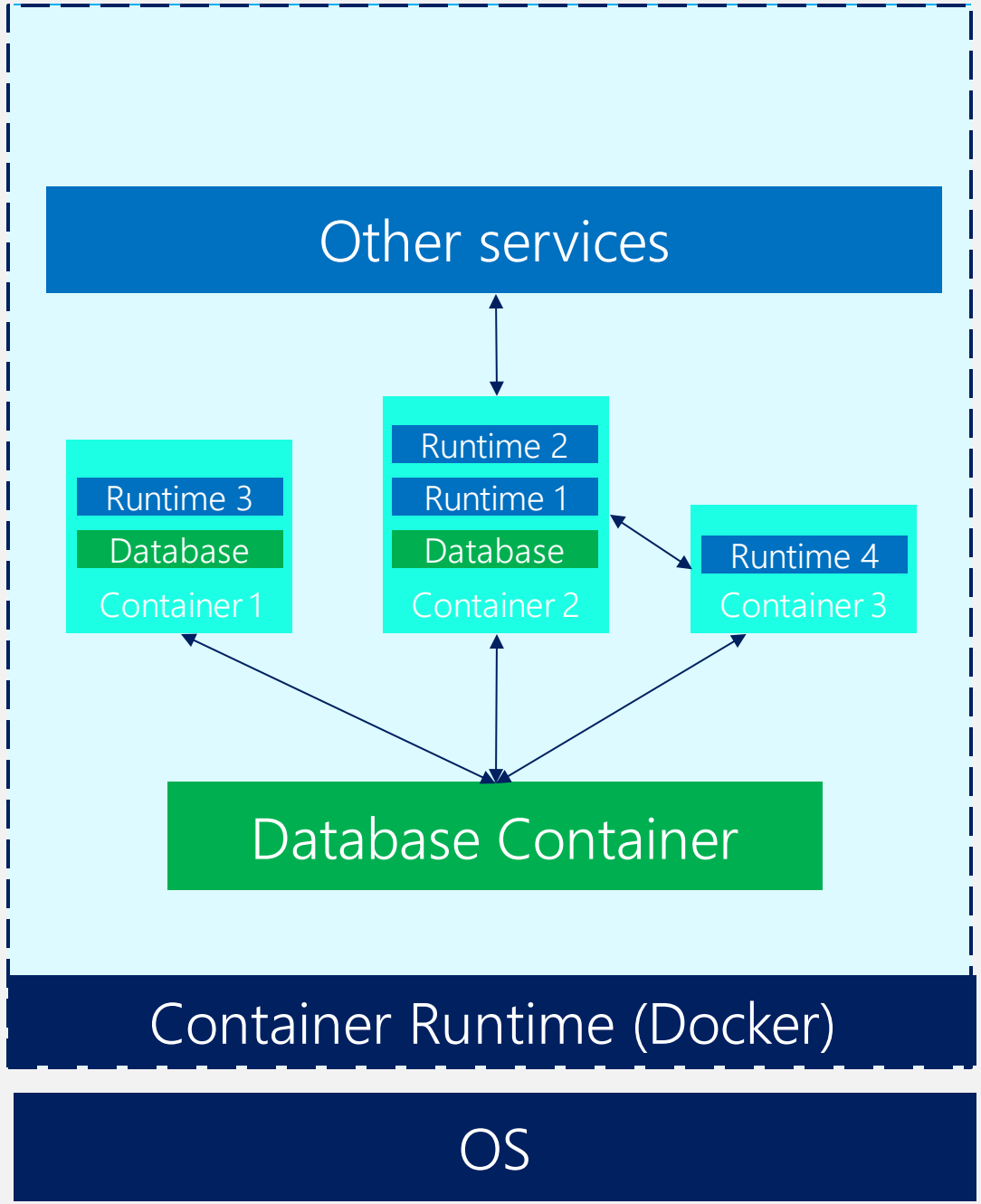
VM

Virtual Machine

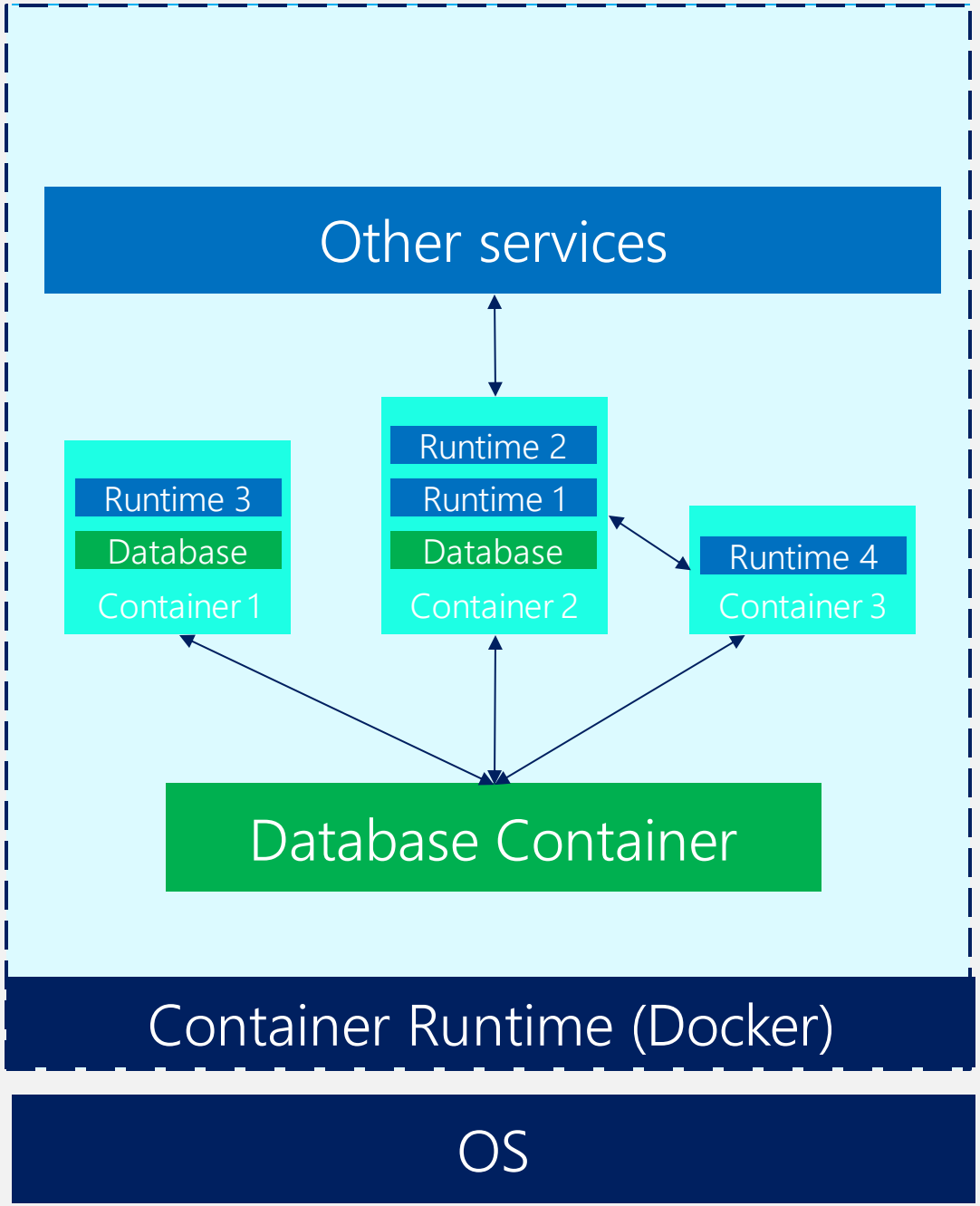


Container
based

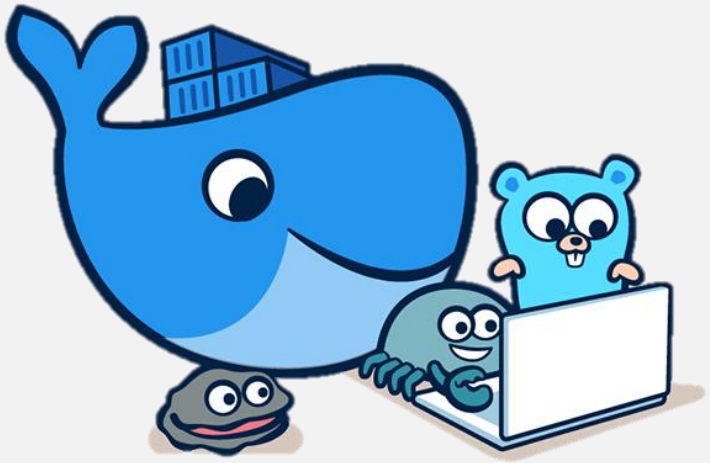


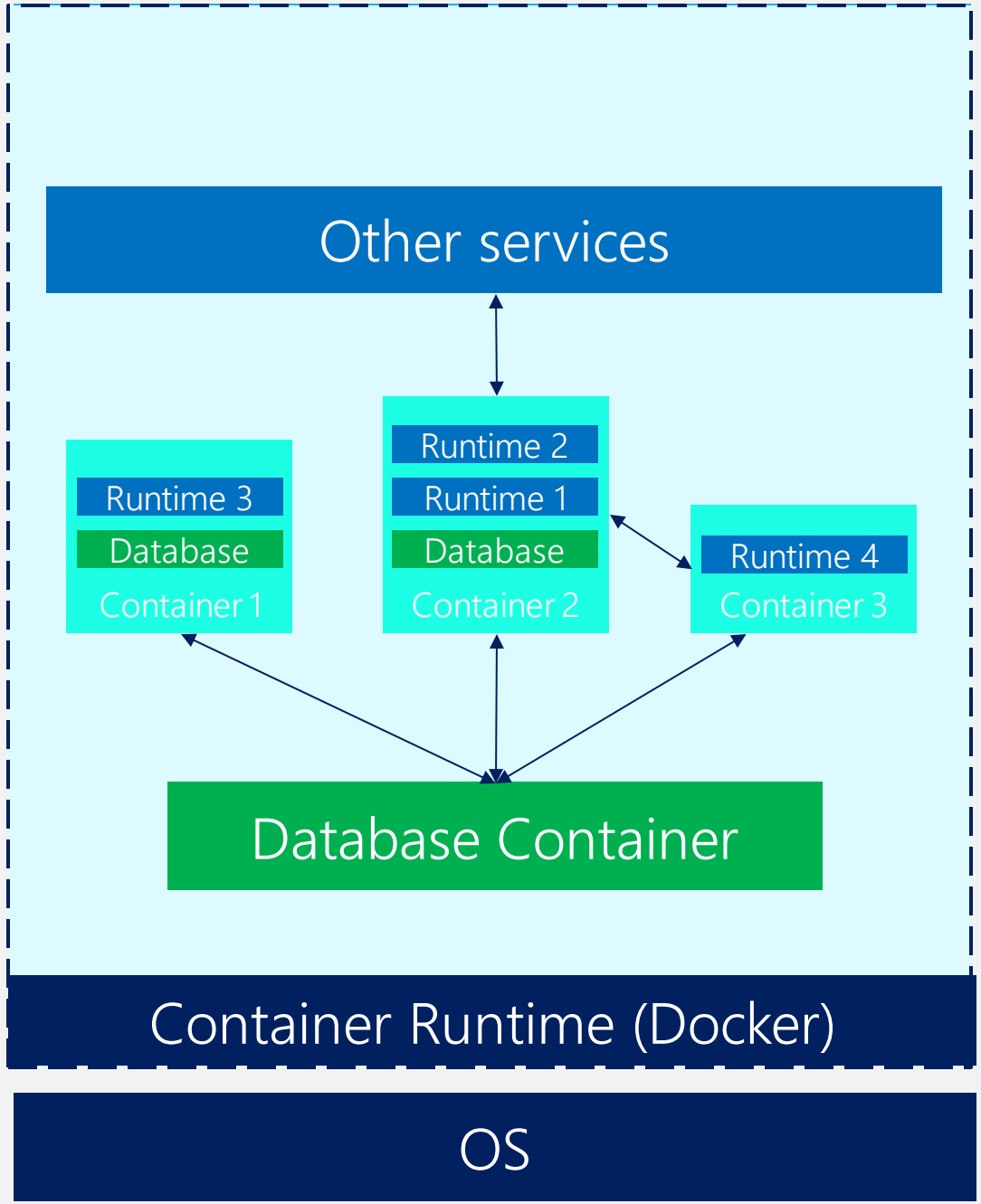

Other services
Runtime 3
Database
Container 1
Runtime 2
Runtime 1
Database
Container 2
Runtime 4
Container 3
Database Container
Container Runtime (Docker)
OS

What is **Docker**



?

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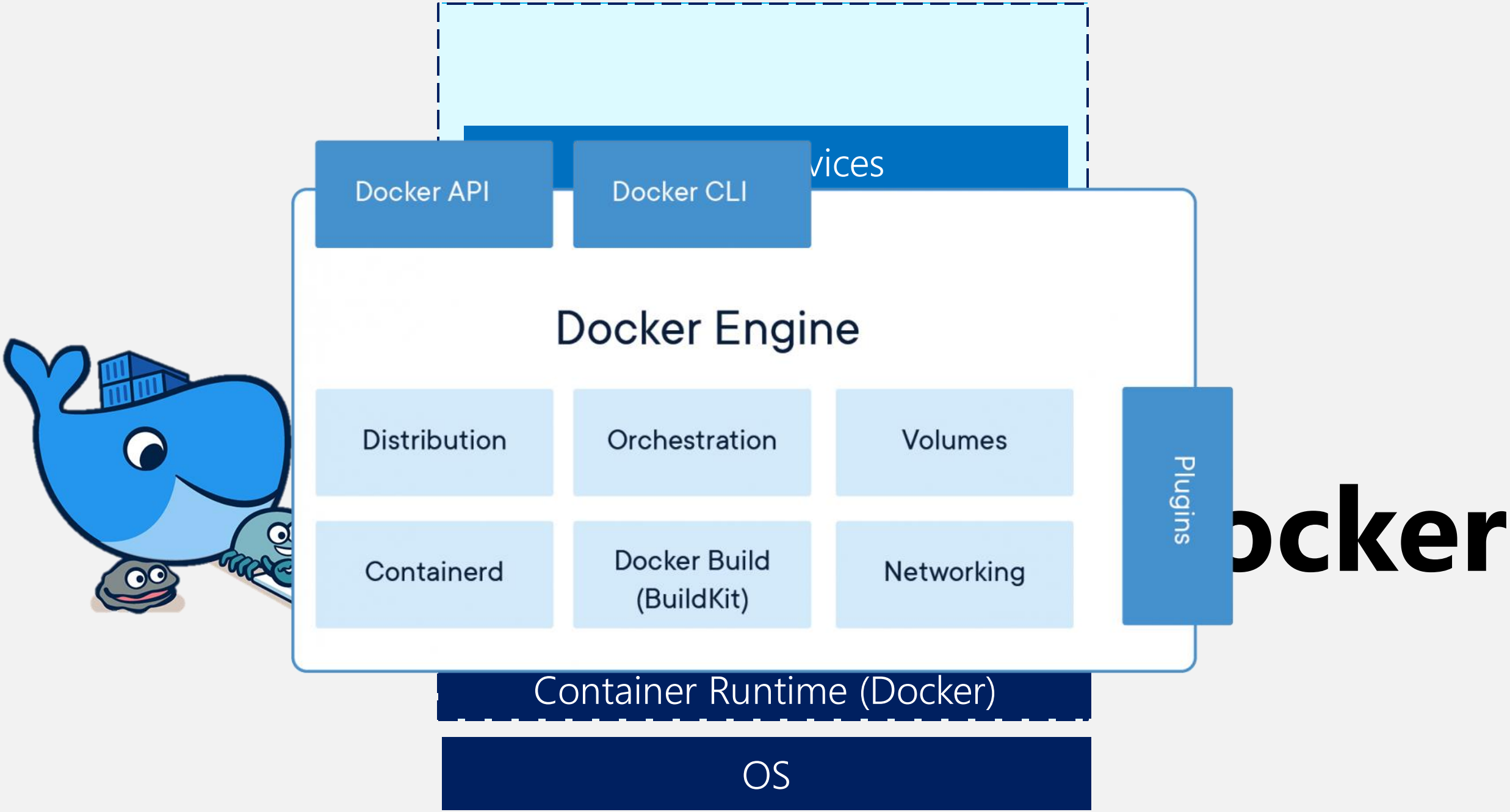
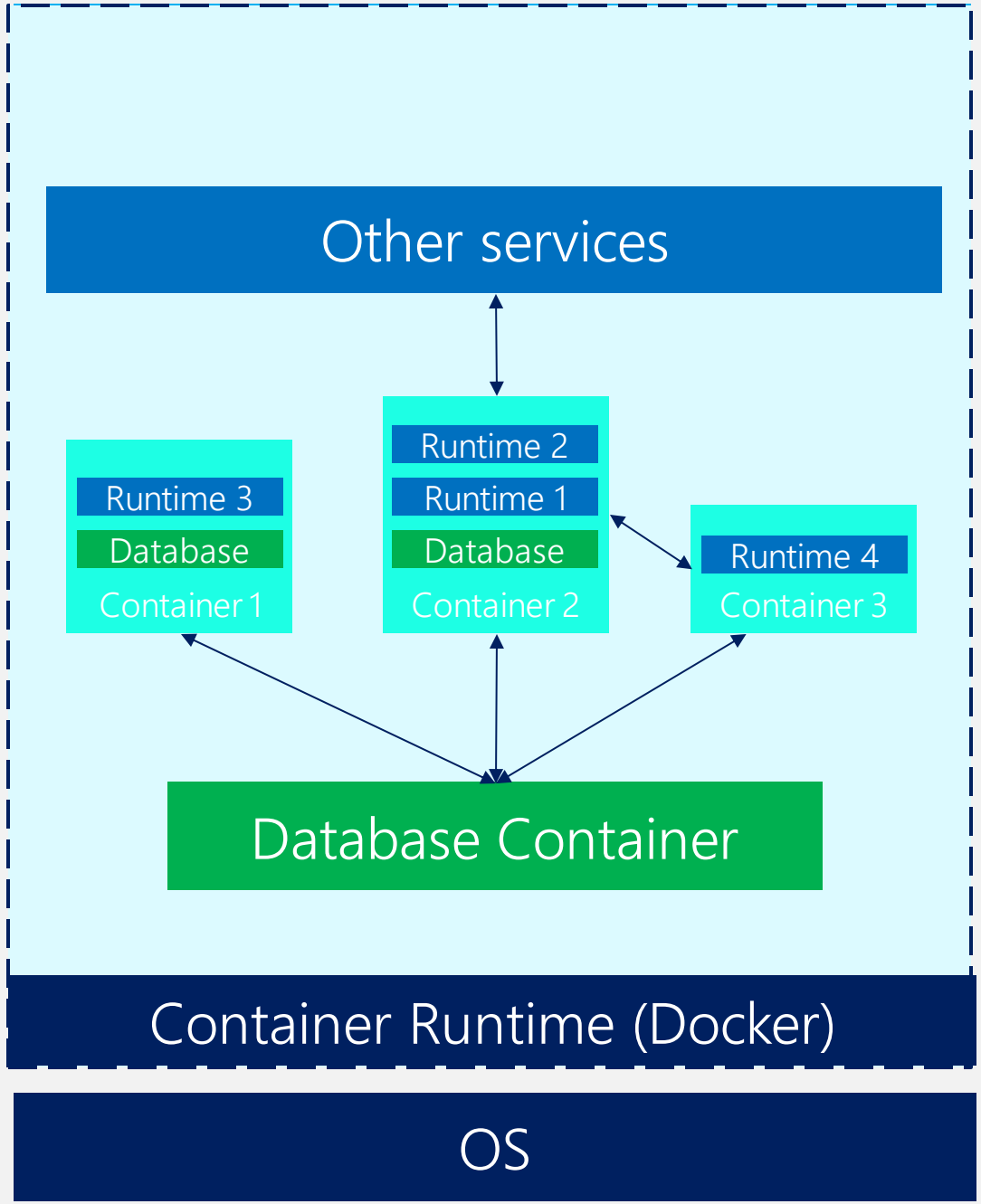
Docker


vices
Docker API
Docker CLI
Docker Engine
Distribution
Orchestration
Volumes
Containerd
Docker Build
(BuildKit)
Networking
Plugins
ocker
Container Runtime (Docker)
OS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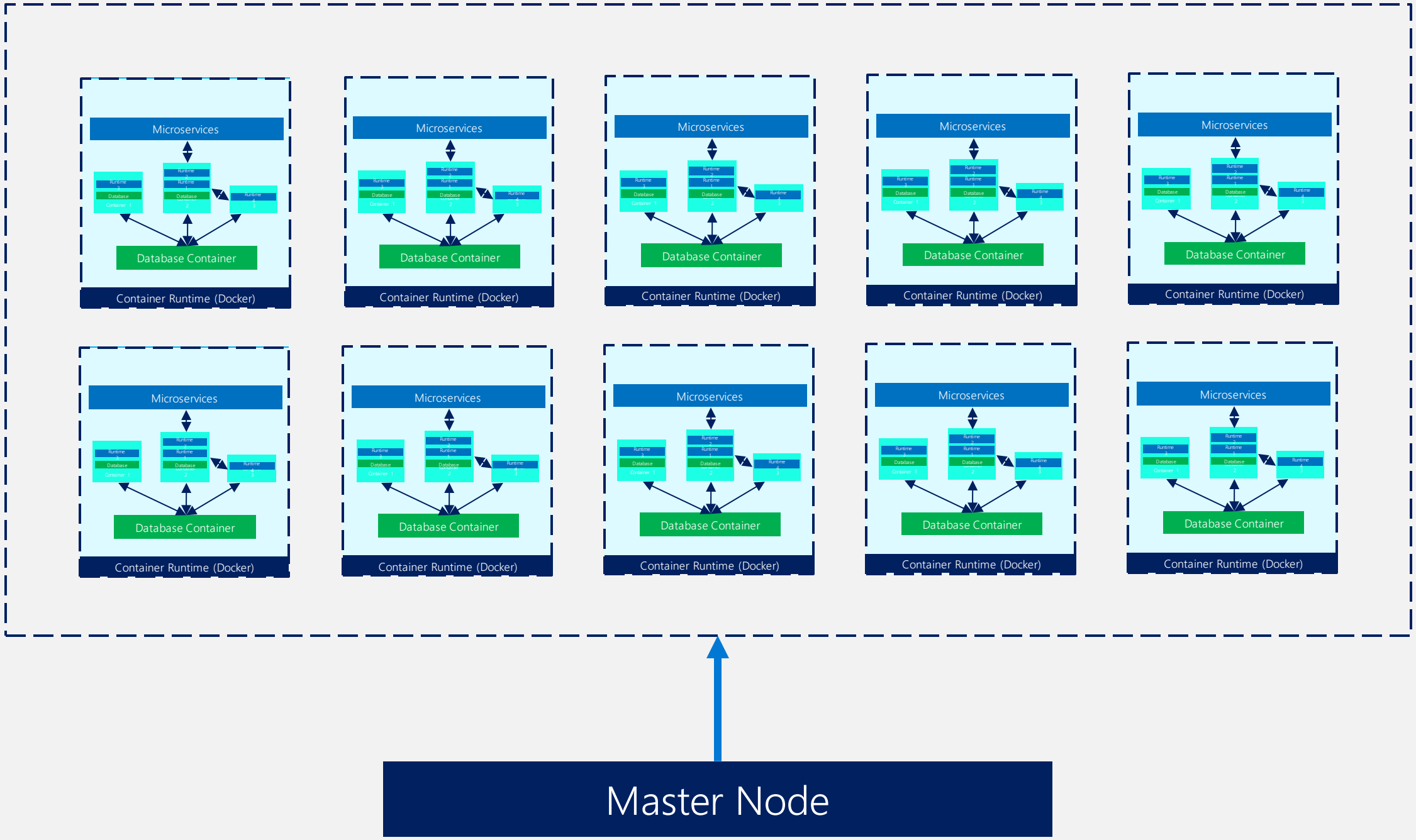
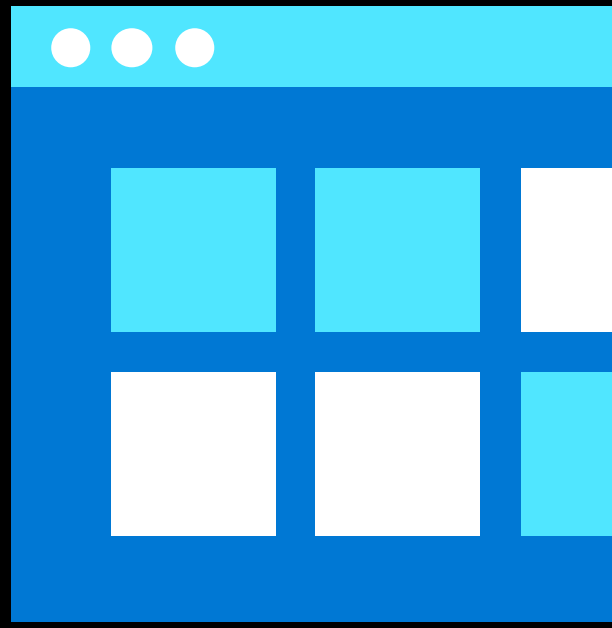

Microservices
Database Container
Container Runtime (Docker)
Master Node

Container use cases

- “Lift and shift”
- Refactor existing application
- Develop new application
- Portable application
- As an Ad-hoc
- PaaS not support language natively but support container



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Challenge to use container

- Application that required specific OS
- Low-level changes to the OS
- GUI only application

Challenge to use container

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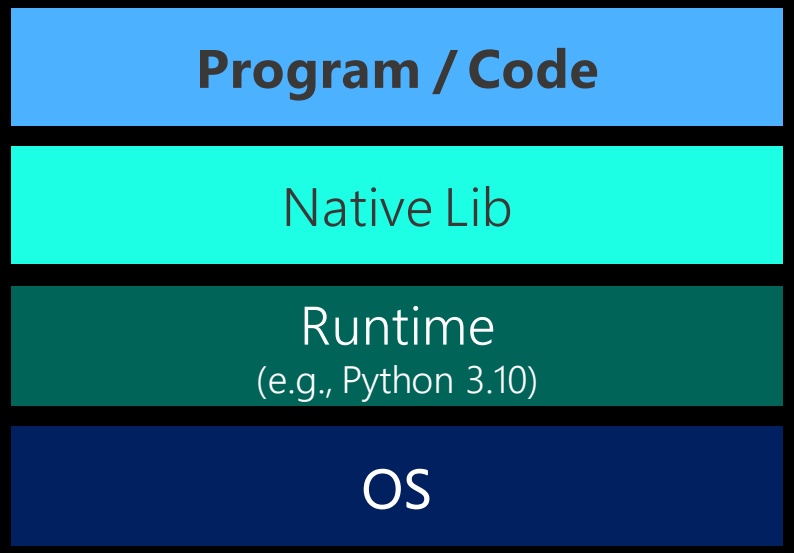
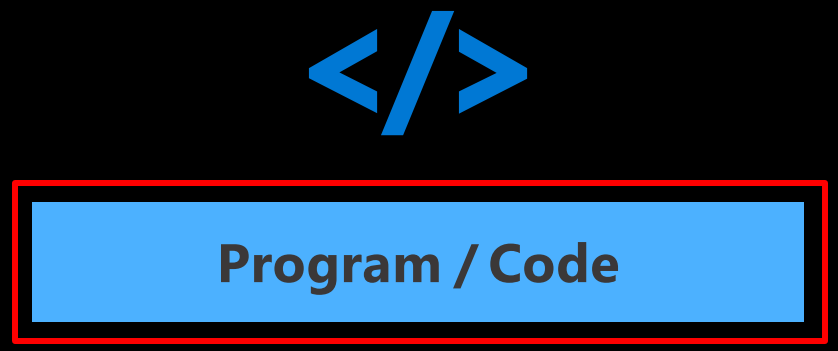
Limitation

- Some Docker Image may not work across processor architect

  e.g. Image built from **Apple Silicon (M1)** may not work on **AMD64**

How to make it works


Program / Code
Native Lib
Runtime
(e.g., Python 3.10)
OS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Program / Code

Native Lib

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OS

DockerFile

nvim Dockerfile

```
1 FROM php:7.3-fpm-stretch
2
3 # Copy composer.lock and composer.json
4 COPY ./app/composer.lock ./app/composer.json /var/www/
5
6 # Set working directory
7 WORKDIR /var/www
8
9 # Install dependencies
10 RUN apt-get update && apt-get install -y \
11     build-essential \
12     default-mysql-client \
13     libpng-dev \
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Dockerfile 9,23 Top

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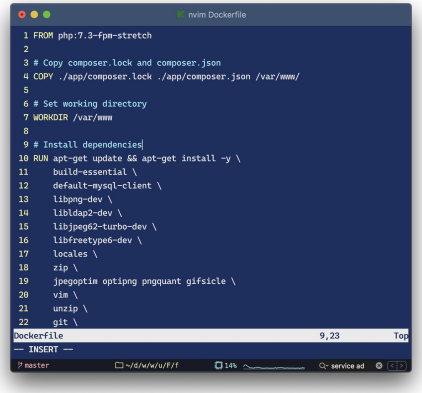
Dockerfile 9,23 Top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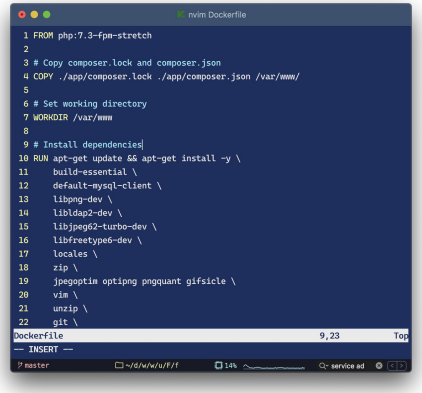
Dockerfile 9,23 Top
-- INSERT --
master
~/d/w/w/u/f/f
14%
service ad

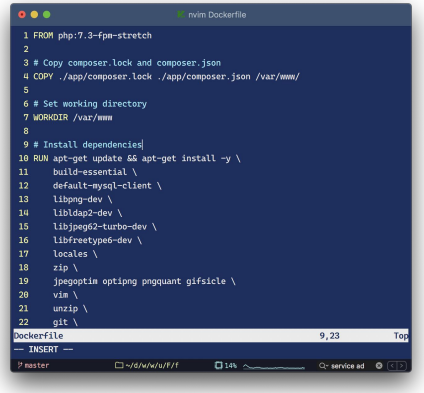
DockerFile



DockerFile

Build

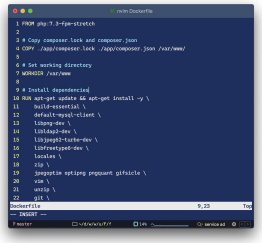
Image from DockerFile



DockerFile

Build

Image from
DockerFile



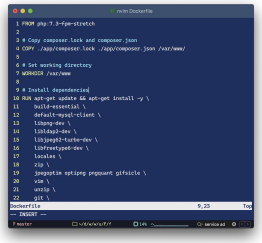
DockerFile

Build

Image from DockerFile

Create

Container from Image



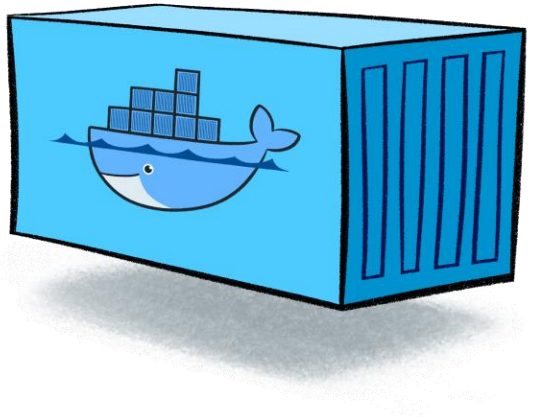
DockerFile

Build

Image from DockerFile

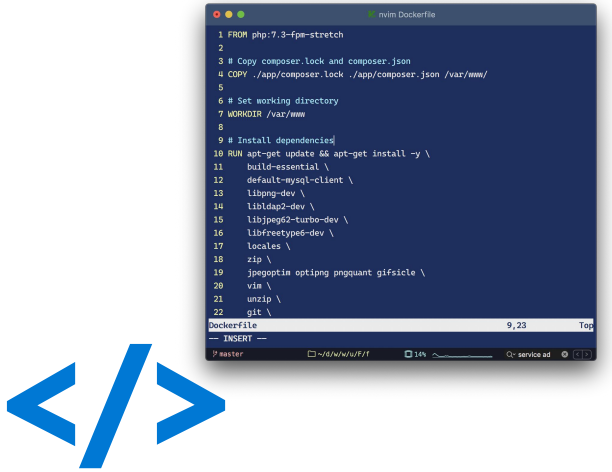
Create

Container from Image



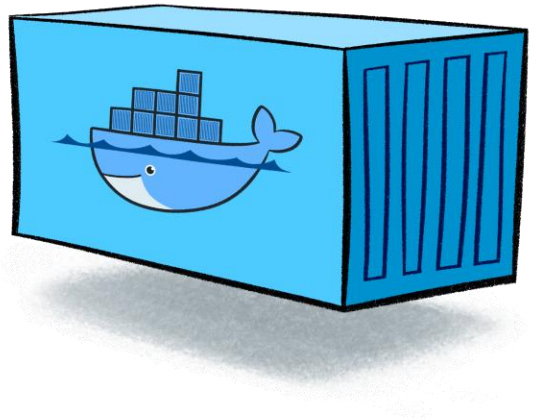
Container

What do we need



DockerFile
+ Your Code

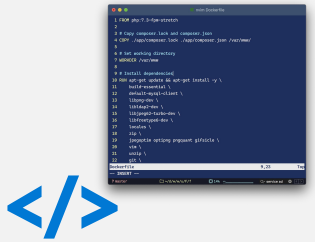
Image



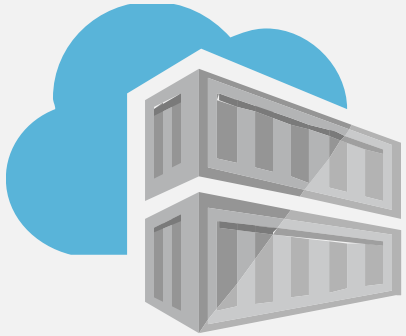
Container

What do we need

File system, Git, etc.

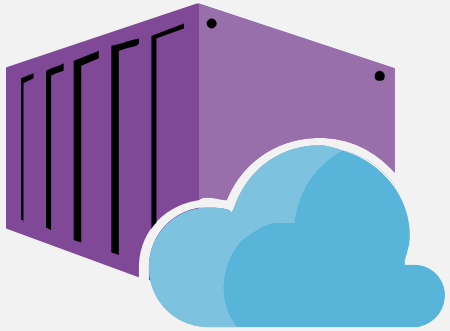


DockerFile + Your Code

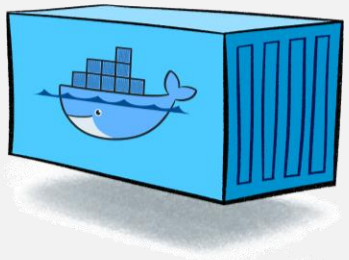


Container Registry

Docker Image



Container Runtime



Docker Container

What do we need

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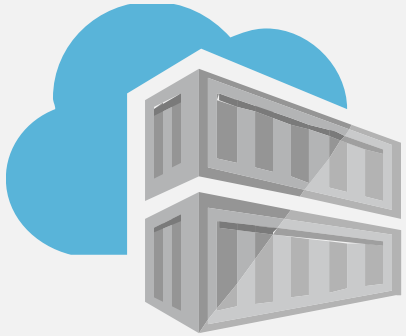

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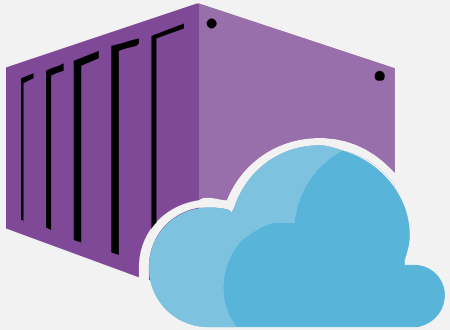

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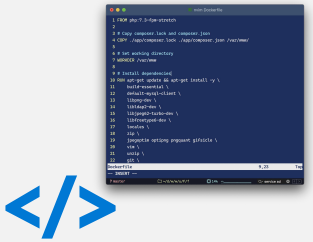
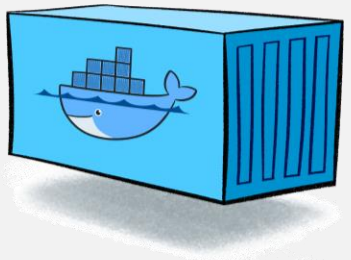


DockerFile + Your Code

Build

Image from DockerFile

Docker Image



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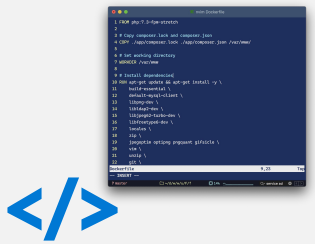
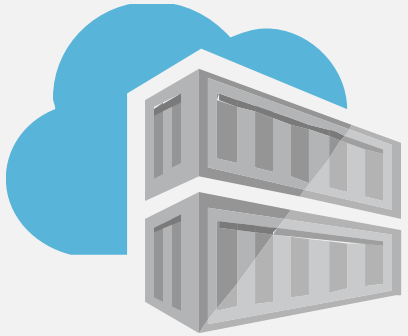


DockerFile + Your Code

Build

Image from DockerFile

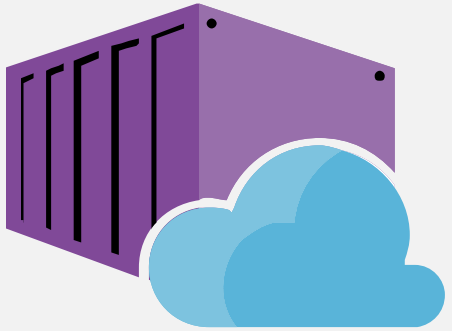


Container Registry

Push

Image to Container Registry

Docker Image



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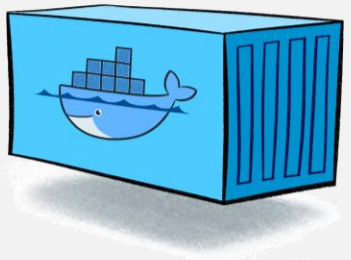

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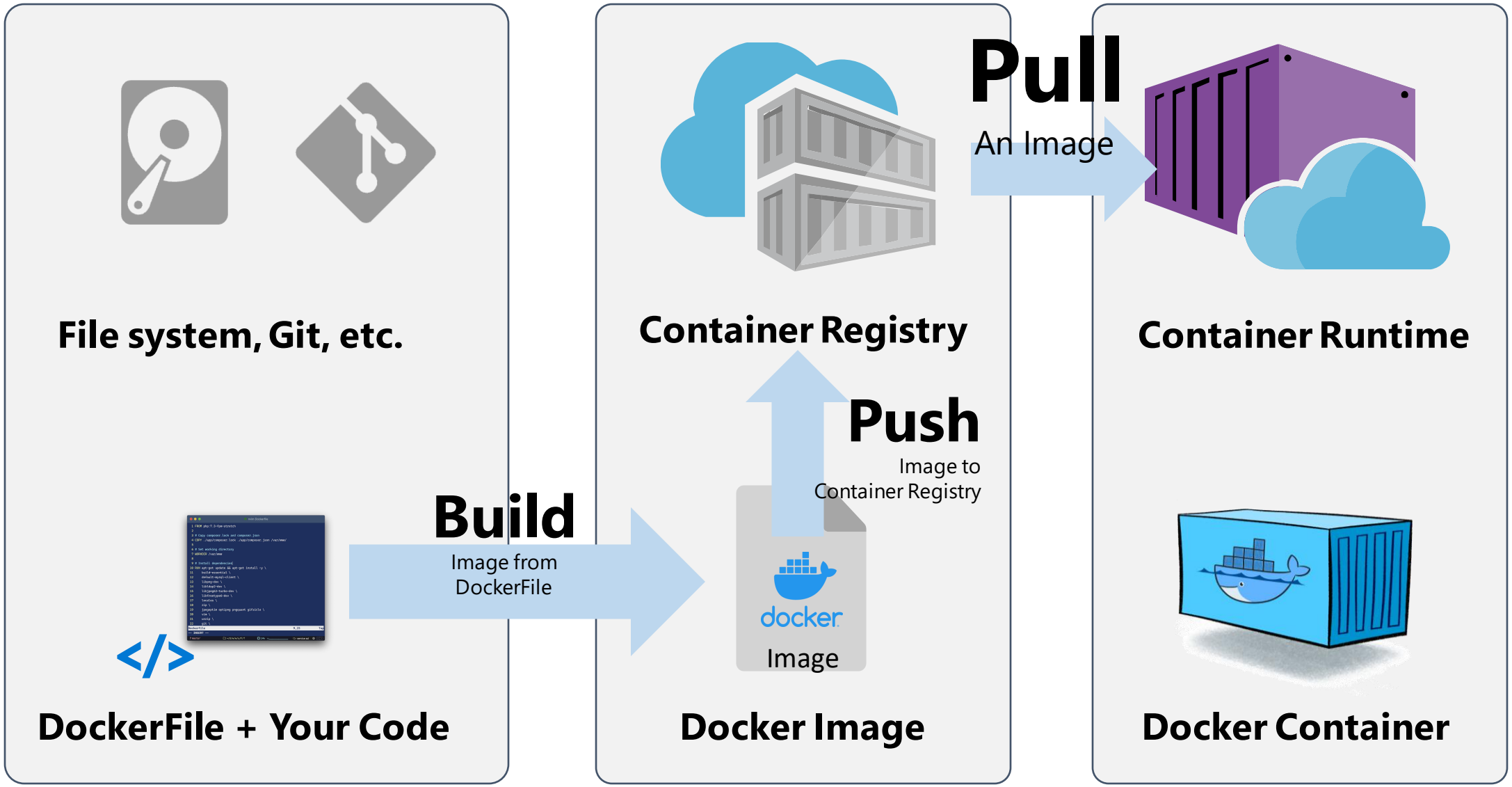

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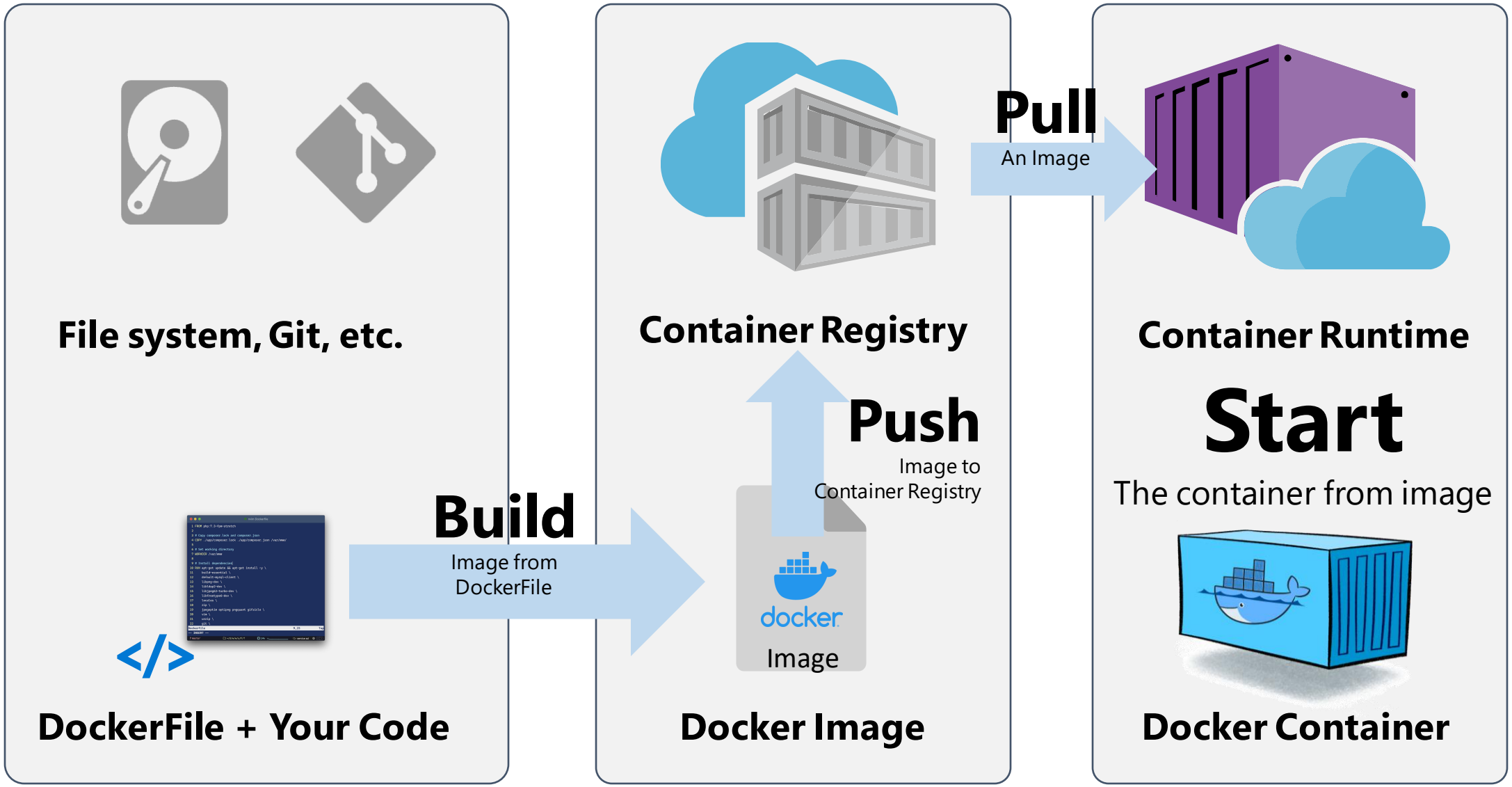
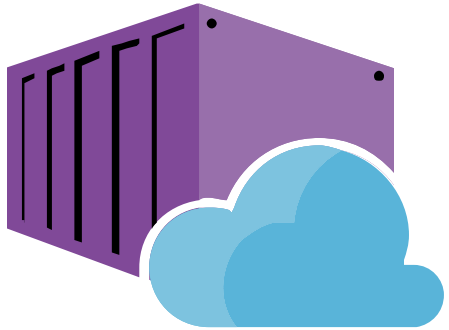
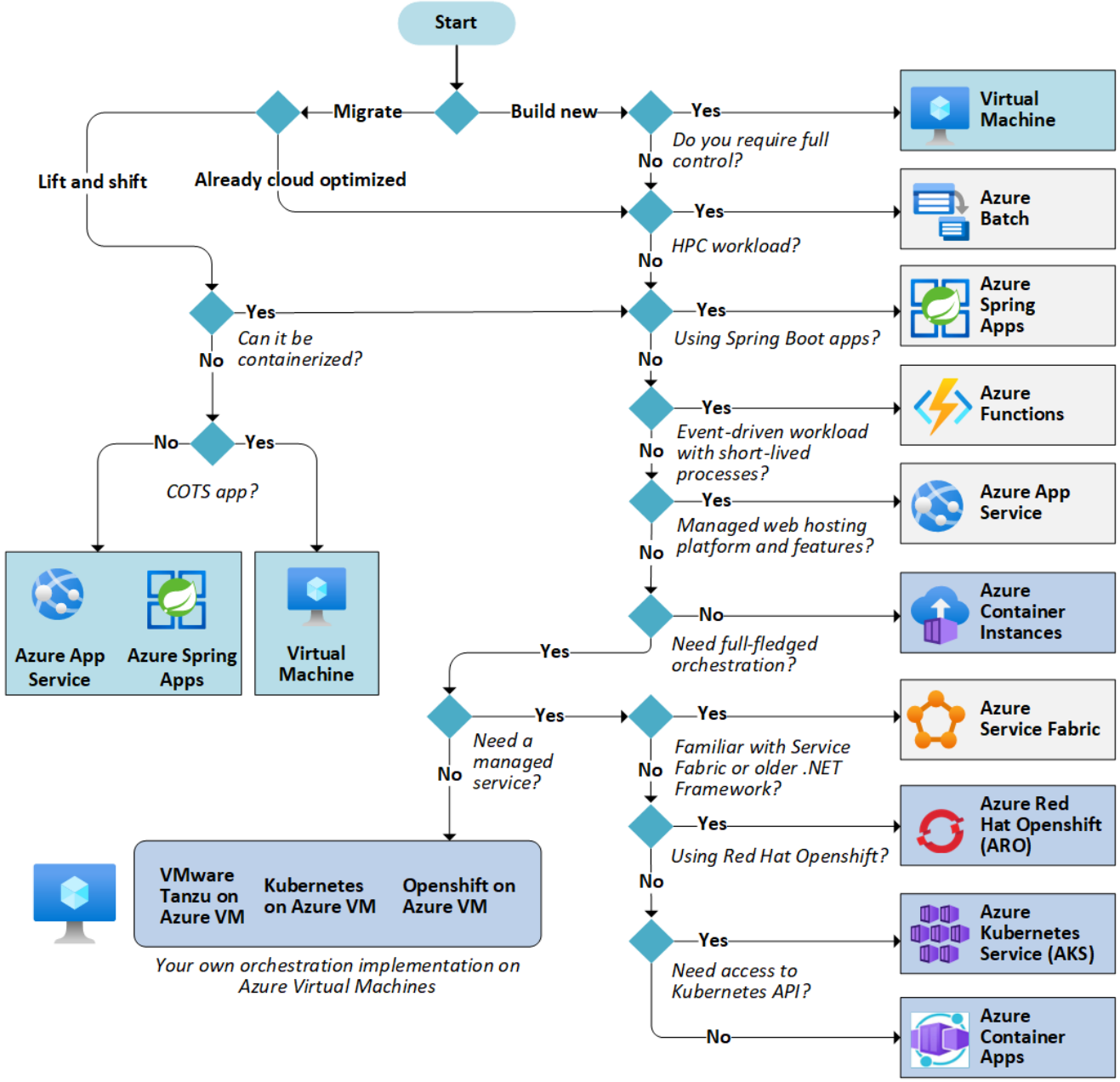




Container Runtime

on Azure

- Virtual Machine
- Azure Batch
- Azure Spring Apps
- Azure Functions
- Azure App Service
- Azure Container Instances
- Azure Service Fabric
- Azure Red Hat Openshift (ARO)
- Azure Kubernetes Service (AKS)
- Azure Container Apps



Container exclusive services

- Azure Batch
- Azure Functions
- Azure App Service
- Azure Spring Apps
- Azure Service Fabric
- Kubernetes on Azure VM
- VMware Tanzu on Azure VM
- Openshift on Azure VM

Container compatible services

- Azure Batch
- Azure Functions
- Azure Service Fabric
- Azure Spring Apps
- Azure App Service

Introducing Azure DevOps

Azure Boards

Deliver value to your users faster using proven agile tools to plan, track, and discuss work across your teams.

Azure Pipelines

Build, test, and deploy with CI/CD that works with any language, platform, and cloud. Connect to GitHub or any other Git provider and deploy continuously.

Azure Repos

Get unlimited, cloud-hosted private Git repos and collaborate to build better code with pull requests and advanced file management.

Azure Test Plans

Test and ship with confidence using manual and exploratory testing tools.

Azure Artifacts

Create, host, and share packages with your team, and add artifacts to your CI/CD pipelines with a single click.

è

https://azure.com/devops

Demo

OpenAI

OpenAI

https://github.com/antronic/line-chatbot-openai-gpt-3-python

Meet the ChatGPT

14 กุมภาพันธ์ 2566
13:00น. – 16:00น.
ที่บริษัท ไมโครซอฟท์ ประเทศไทย
ชั้น 38 ตึก CRC Tower

ลงทะเบียนที่นี่

ทำความรู้จักกับ Azure Synapse Analytics

10 กุมภาพันธ์ 2566
เวลา 14.00-15.00 น.
Microsoft Teams - Online

ลงทะเบียนที่นี่