

mindwrk

BLÄCKBELT

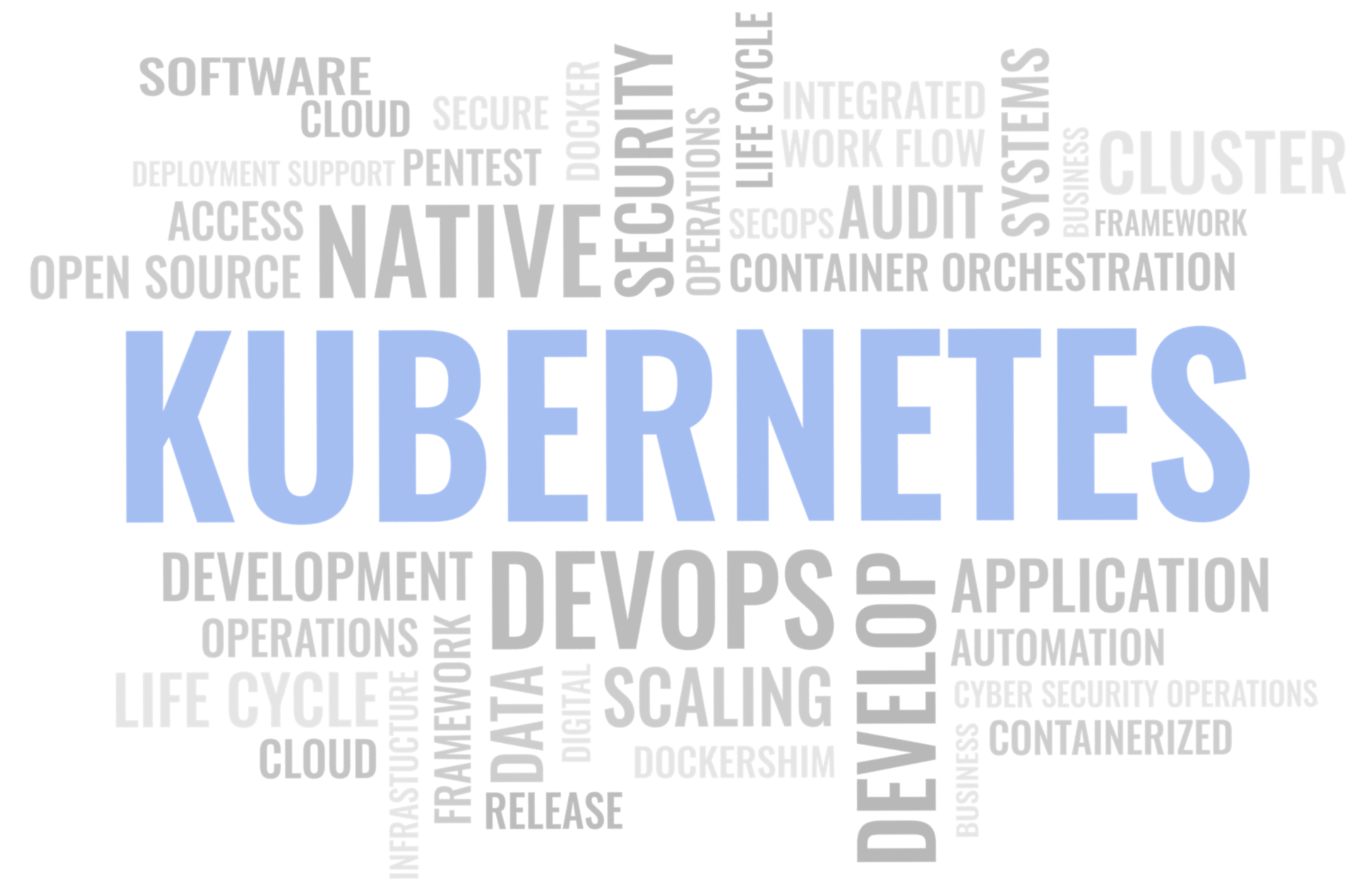
The essential guide to
production-grade Kubernetes

What is Kubernetes?

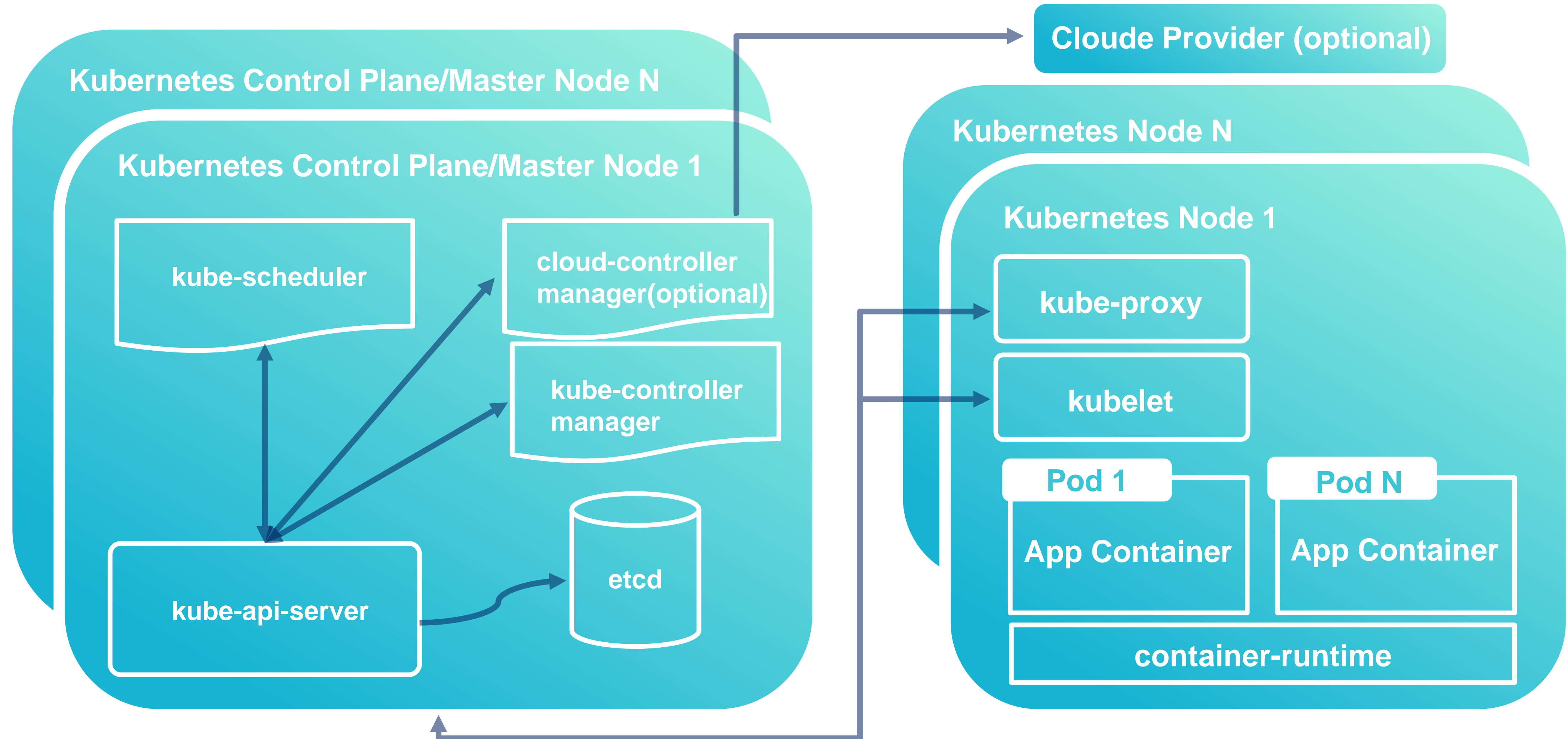
(pronounced: coo-ber-net-ees or k8s for short)

“Kubernetes is an open-source system for automating

- Deployment
- Scaling
- Management of containerized applications”



Kubernetes components



What does production-readiness mean and why is it challenging?

Our cluster is production- ready when it can serve production workloads and real traffic in a reliable and secure fashion

Applications and Workloads

Applications services

Ingress Controller

Apps observability

Cert-Manager

External -DNS

Other services

Kubernetes cluster services

Authentication and authorization

CoreDNS

Cluster observability

Cluster policies

Kubernetes cluster

Control plane

Worker nodes

Infrastructure services

VMs

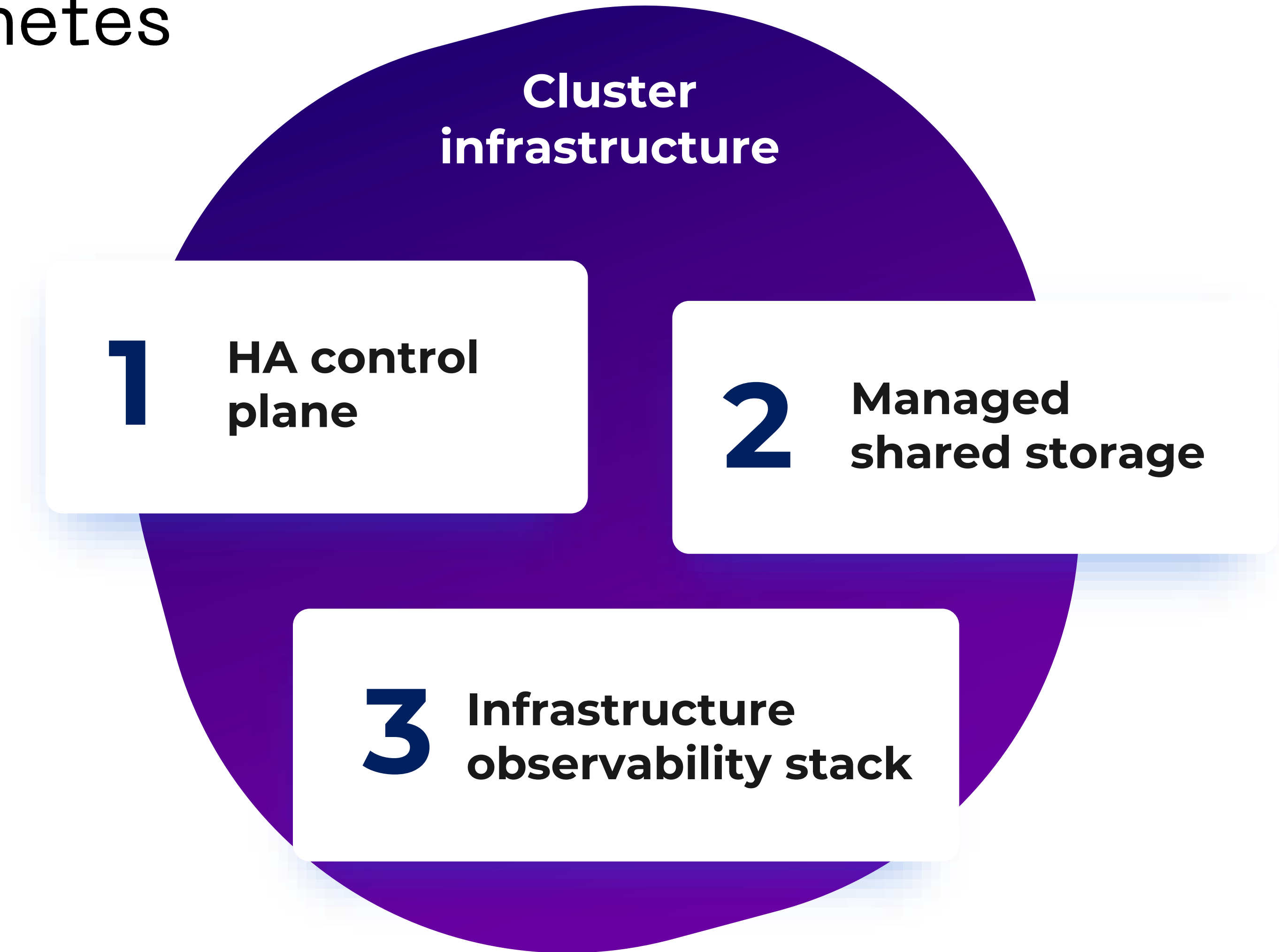
Data services

Shared storage

Managed services

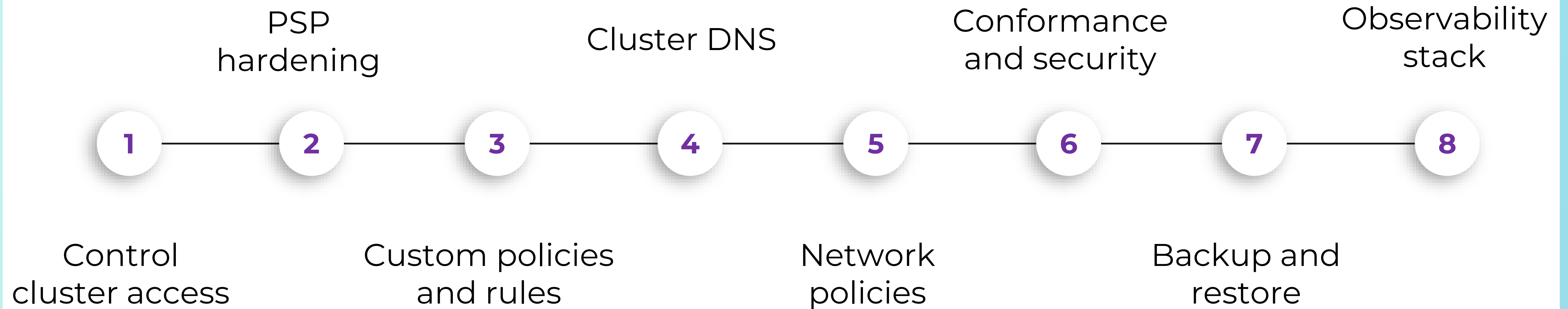
Public cloud | Private cloud | On-premises

Checklist for production-ready Kubernetes



Checklist for production-ready Kubernetes

Cluster services



Checklist for production-ready Kubernetes

Applications and deployment

1

Quality and
vulnerability
scanning

2

Ingress
controller

3

Secrets and
certificates
management

4

Observability
stack

Principles of infrastructure

Go managed

Simplify

Everything as Code (XAC)

Immutable infrastructure

Automation

Standardization

Source of truth

Cloud agnostic

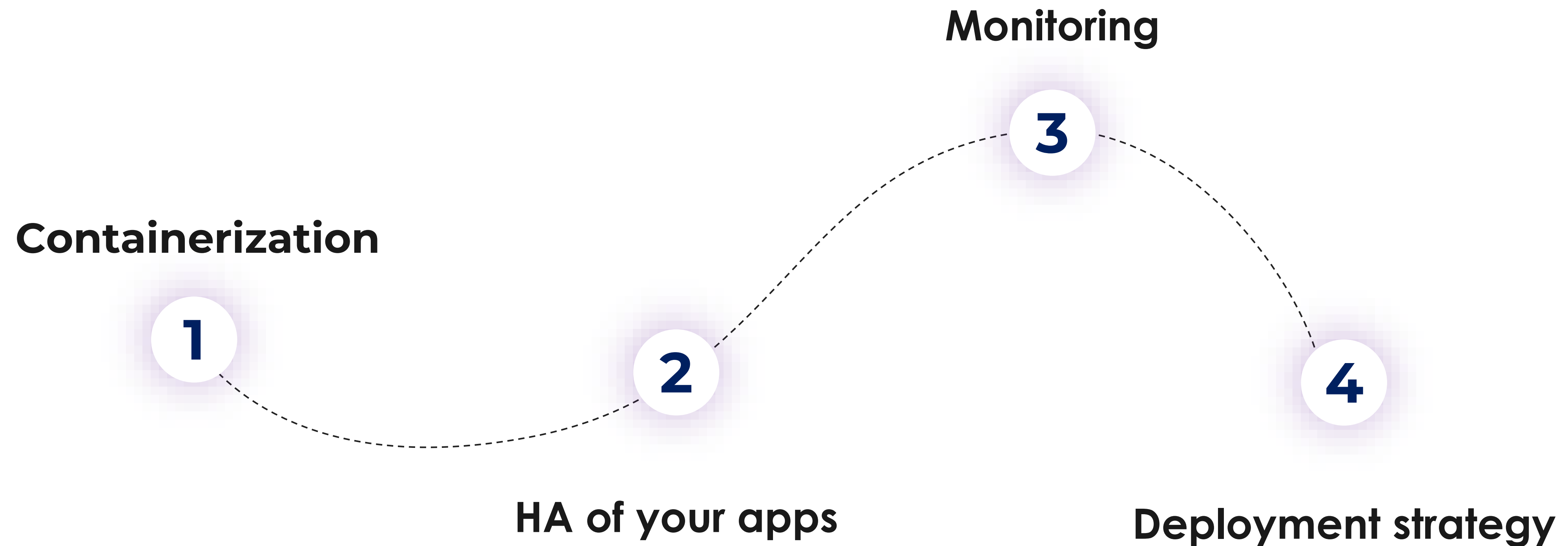
Design for availability

Business continuity

Plan for failures

Operational efficiency

Definition and deployment of applications



People and collaboration



Cloud native – The Foundation

Landscape and ecosystem

<https://landscape.cncf.io/>

Trailmap

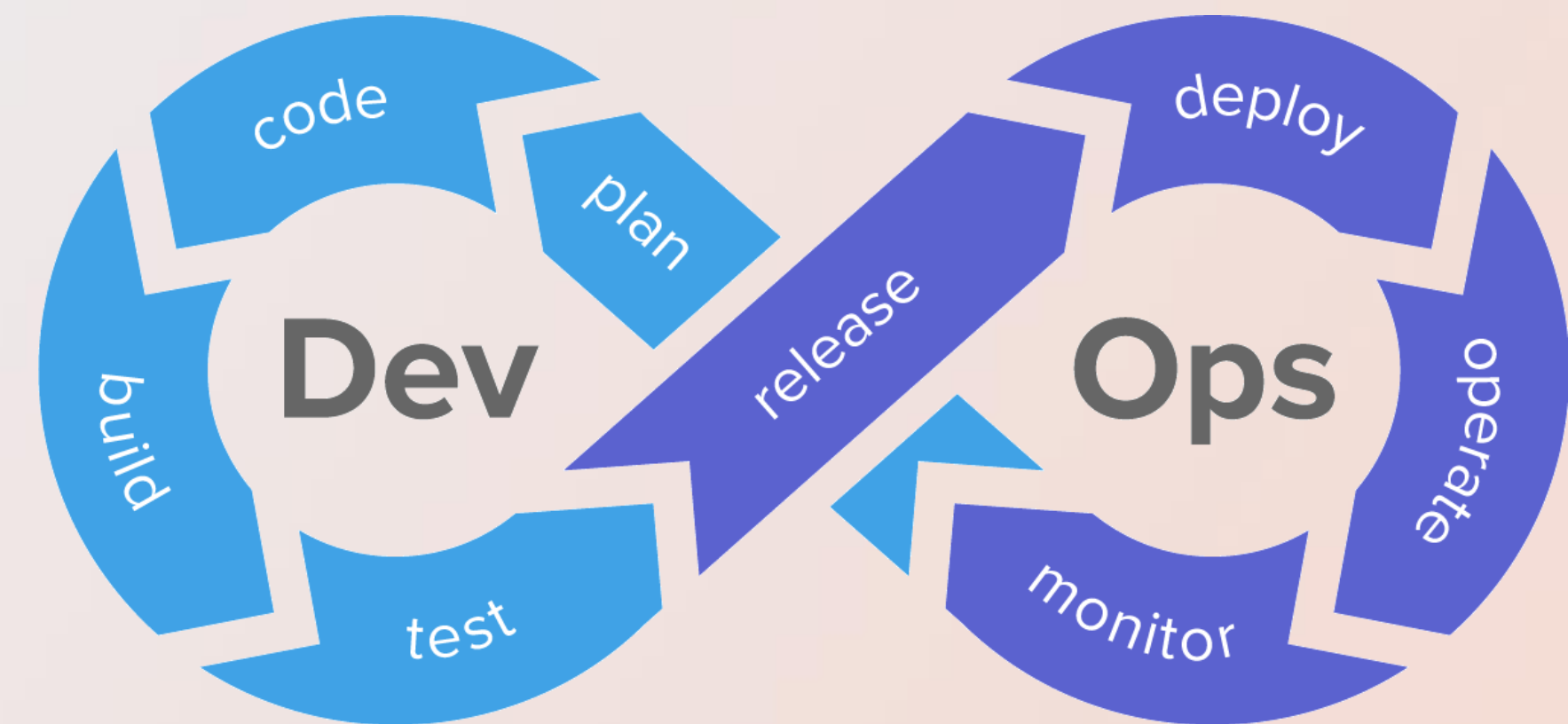
<https://github.com/cncf/landscape/blob/master/README.md#trail-map>

Summary

Kubernetes is not the destination
it is part of the journey

1. plan
2. implement
3. validate
4. deliver

5. operate
6. maintain
7. Goto 1



Production is not a game for the faint of heart! You have to take it seriously, just like you do with your business!