

The background is a solid dark blue. In the top-left corner, there are several overlapping triangles in shades of light blue and teal. In the bottom-right corner, there are more overlapping triangles in similar shades, including a larger teal triangle and a smaller light blue one.

Kubernetes (k8s)



1. Was ist das?

2. Architektur

Agenda

The top corners of the slide feature decorative geometric shapes. In the top-left corner, there are overlapping triangles in shades of blue and teal. In the top-right corner, there are overlapping squares and triangles in shades of blue and teal.

1

Kubernetes - Was ist das?

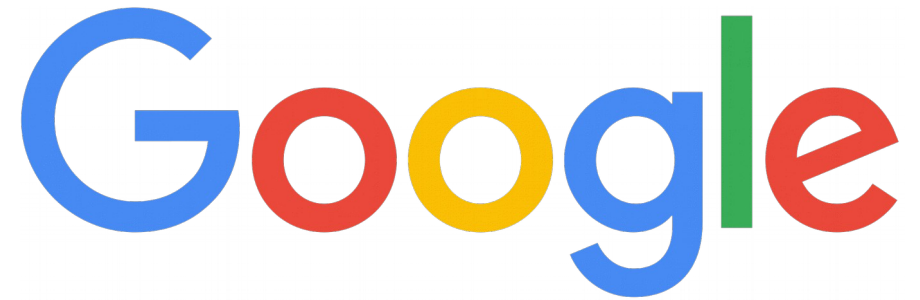
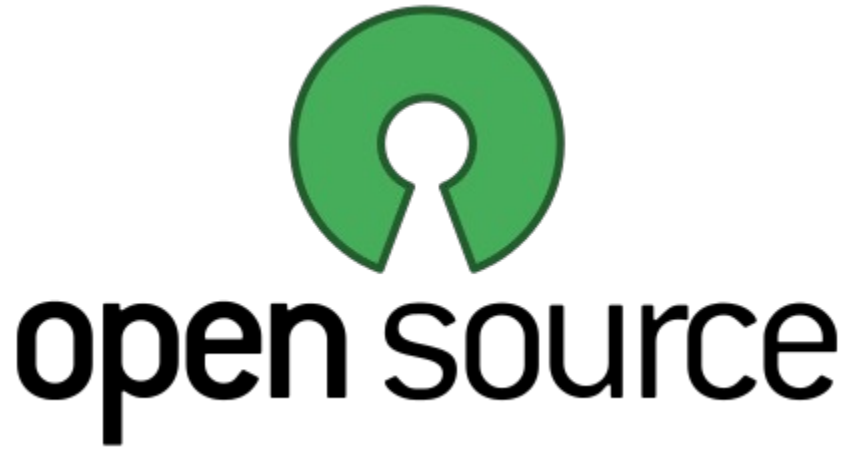
Kubernetes – Was ist das?



Kubernetes – Was ist das?



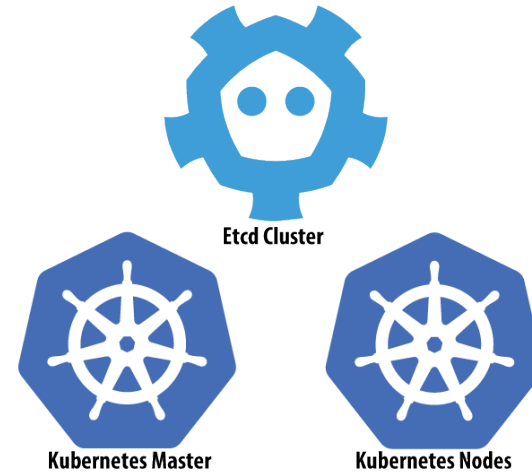
Kubernetes – Was ist das?



Kubernetes – Was ist das?



Kubernetes – Was ist das?



The top corners of the slide feature decorative geometric shapes. In the top-left corner, there are overlapping triangles in shades of light blue, teal, and dark blue. In the top-right corner, there are overlapping squares and triangles in shades of light blue, teal, and dark blue.

2

Kubernetes – Architektur

Kubernetes – Architektur

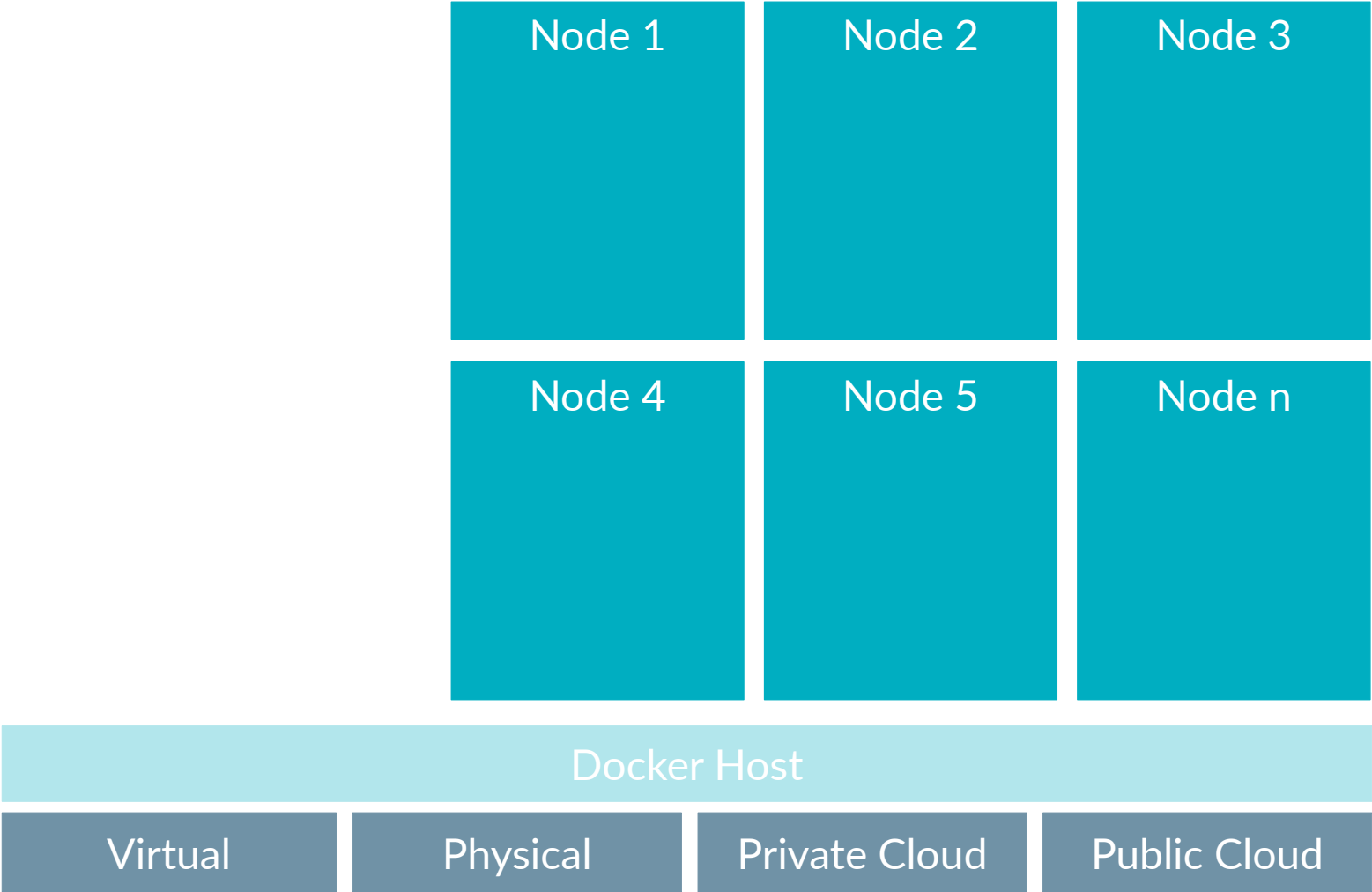


**kubernetes
master**



**kubernetes
nodes**

Compute nodes



Kubernetes – Architektur



**kubernetes
nodes**



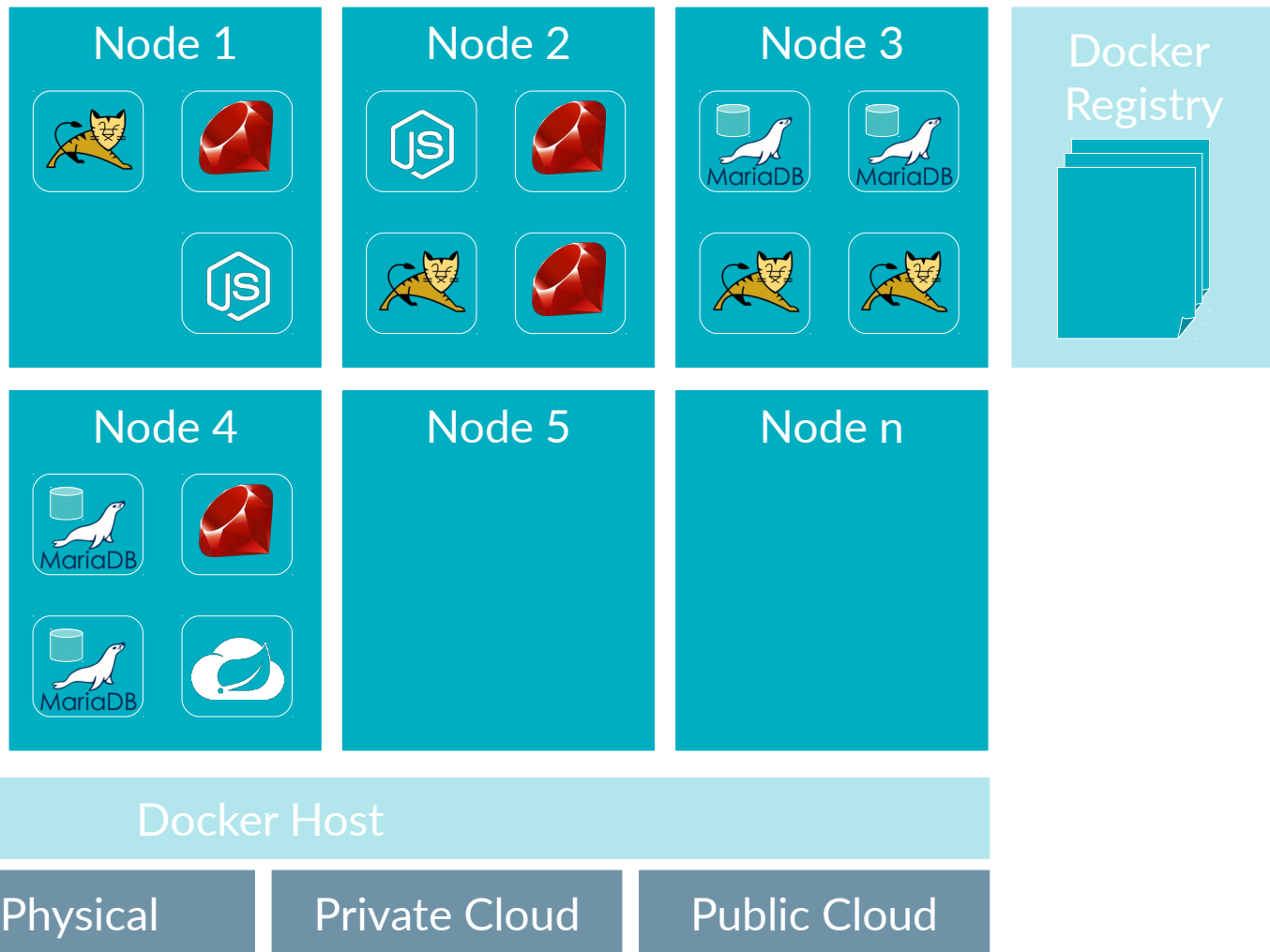
docker

Kublet

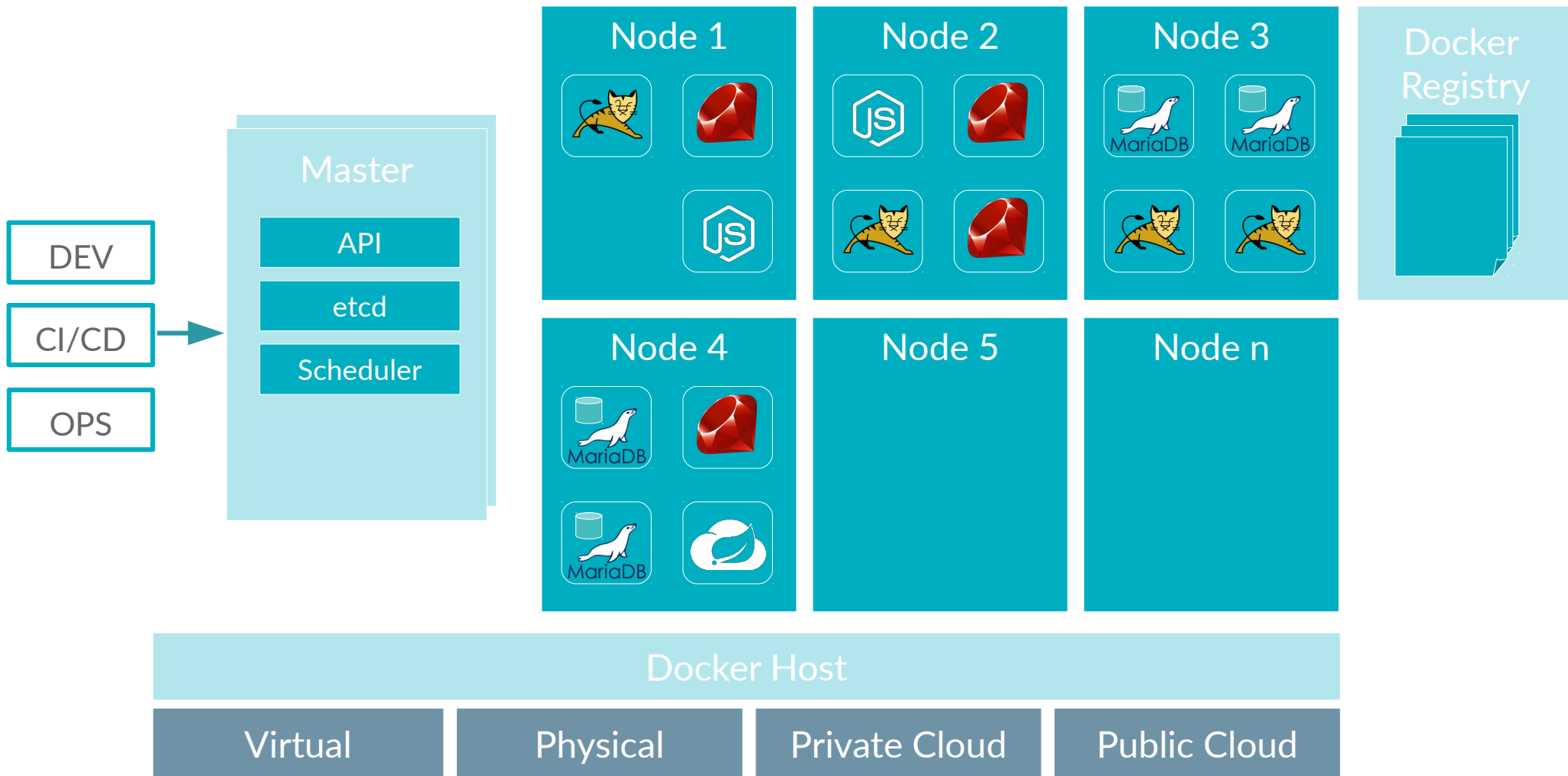
cAdvisor

Kube-Proxy

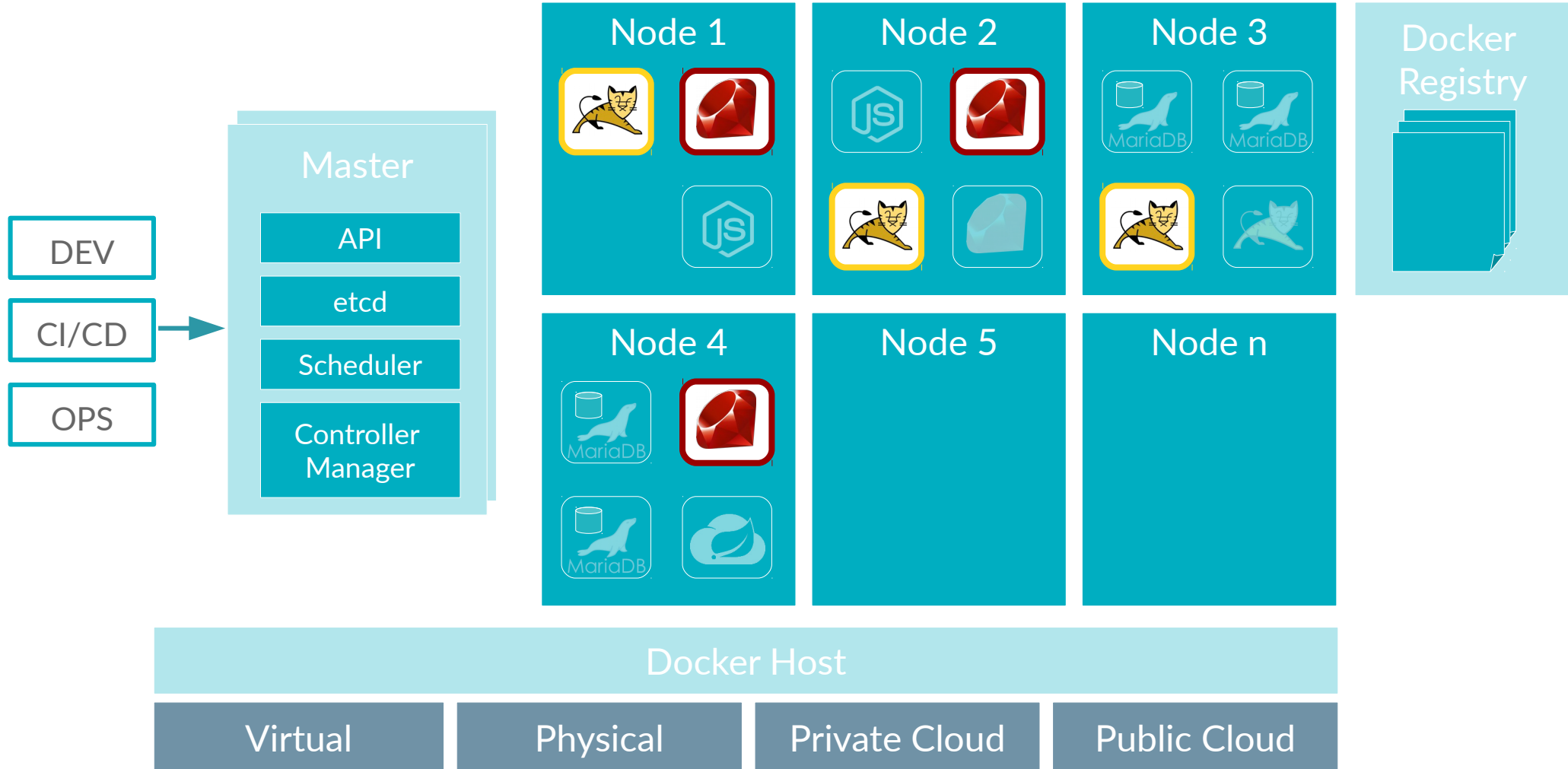
Pods



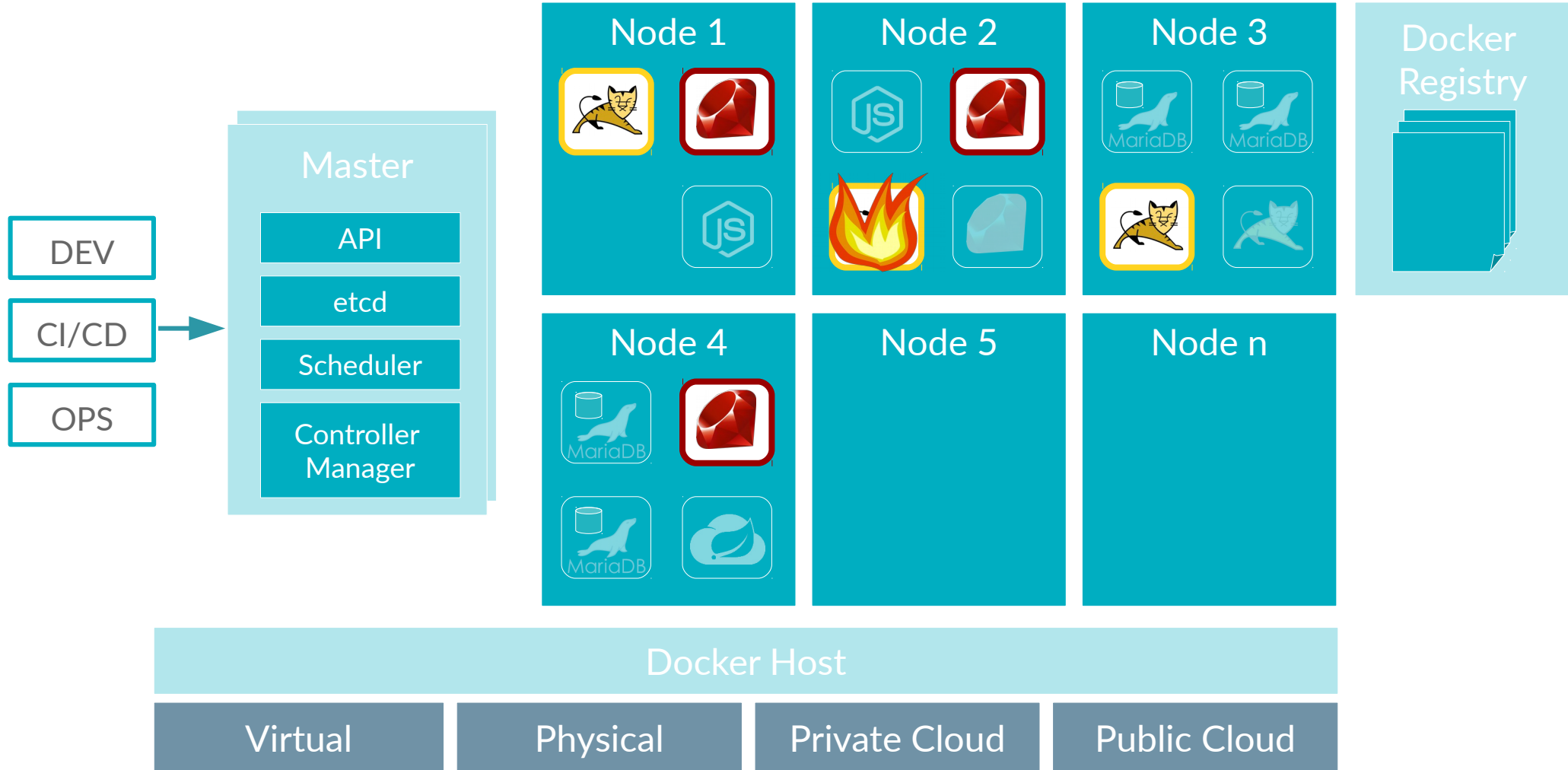
Master



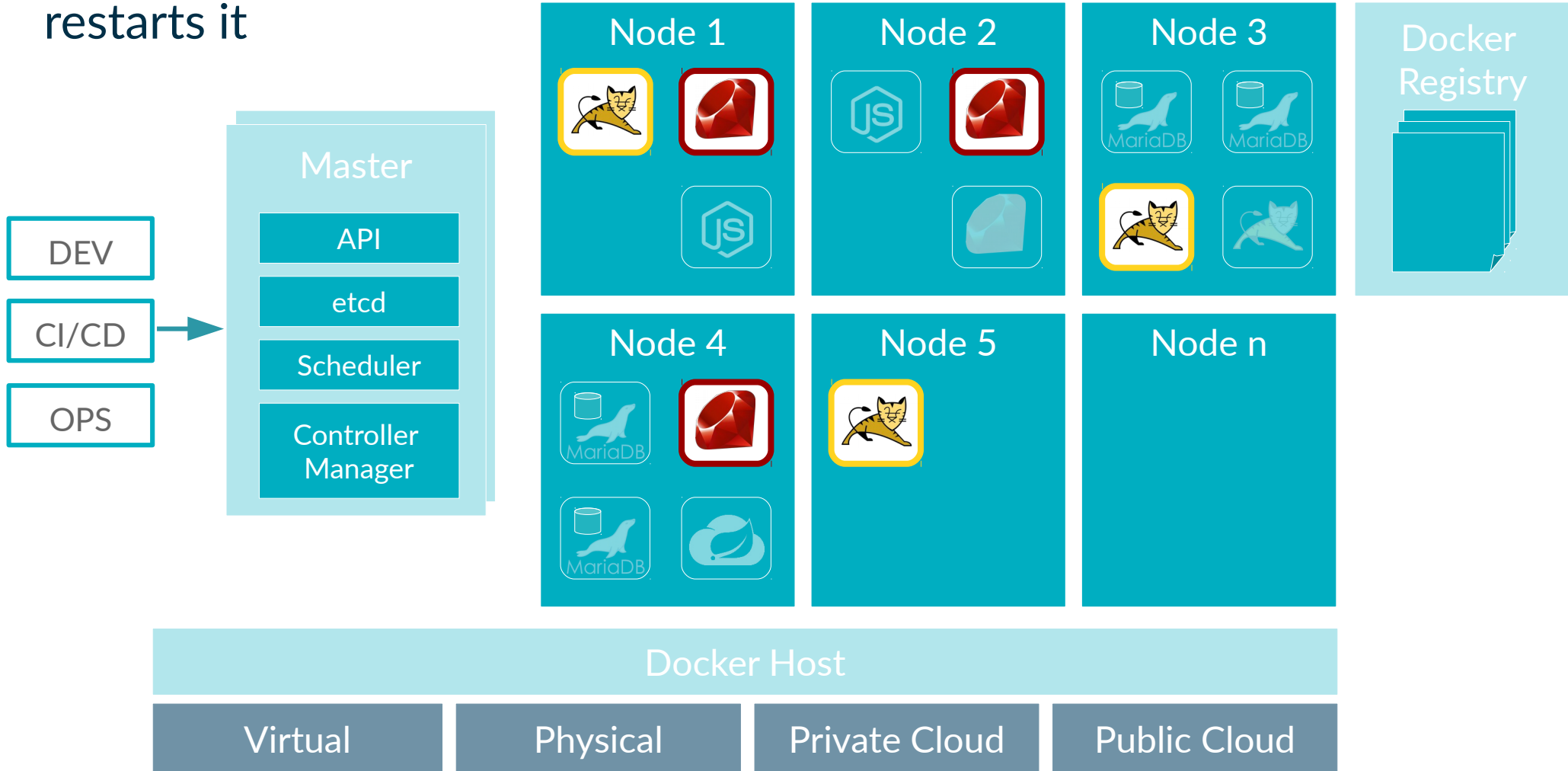
Replication



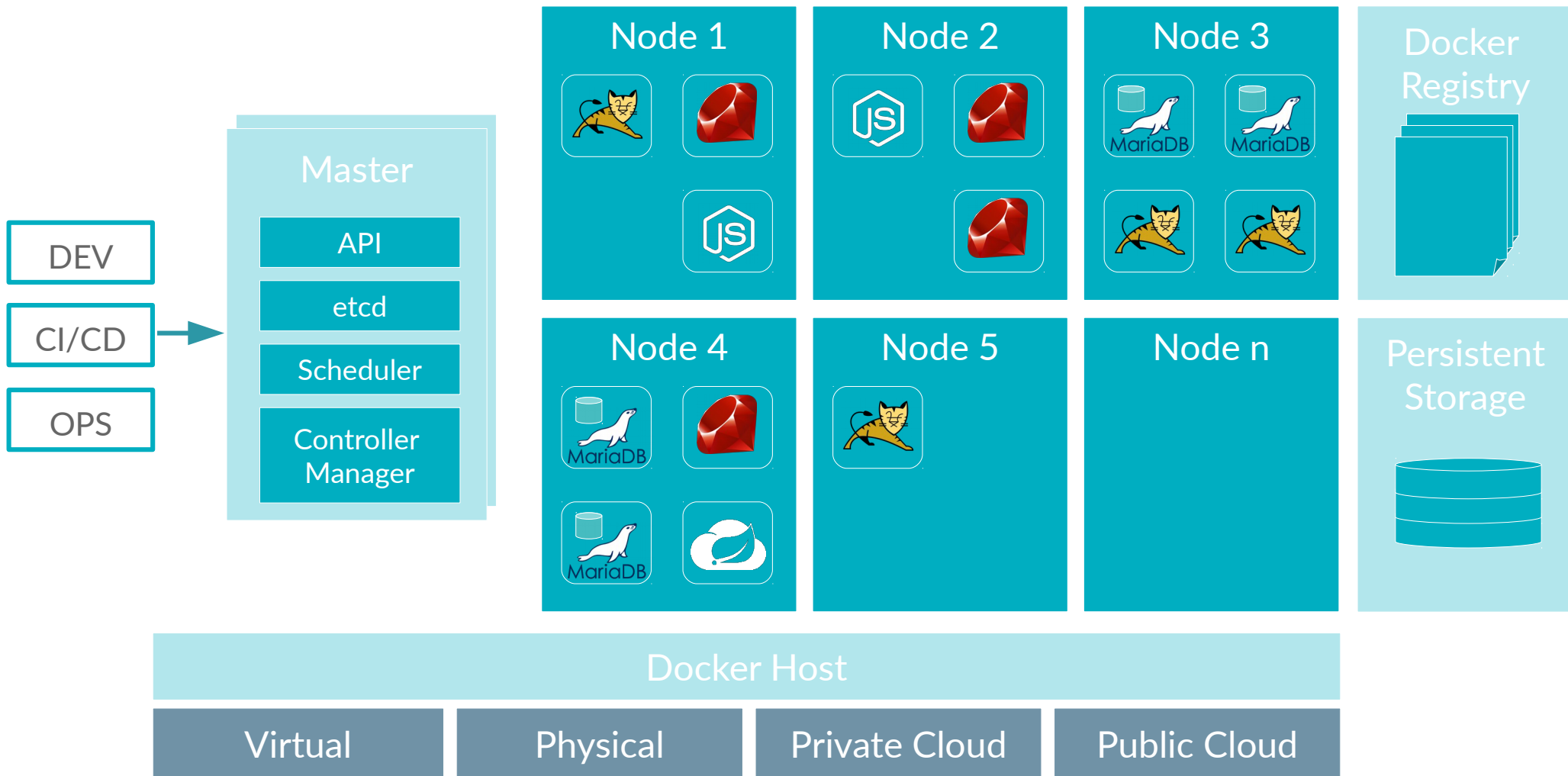
Pod crashes...



... Kubernetes
restarts it



Persistent storage

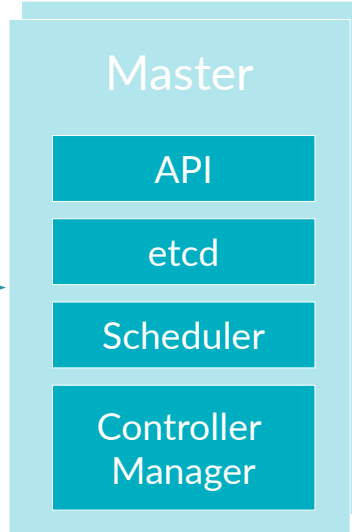


External Traffic

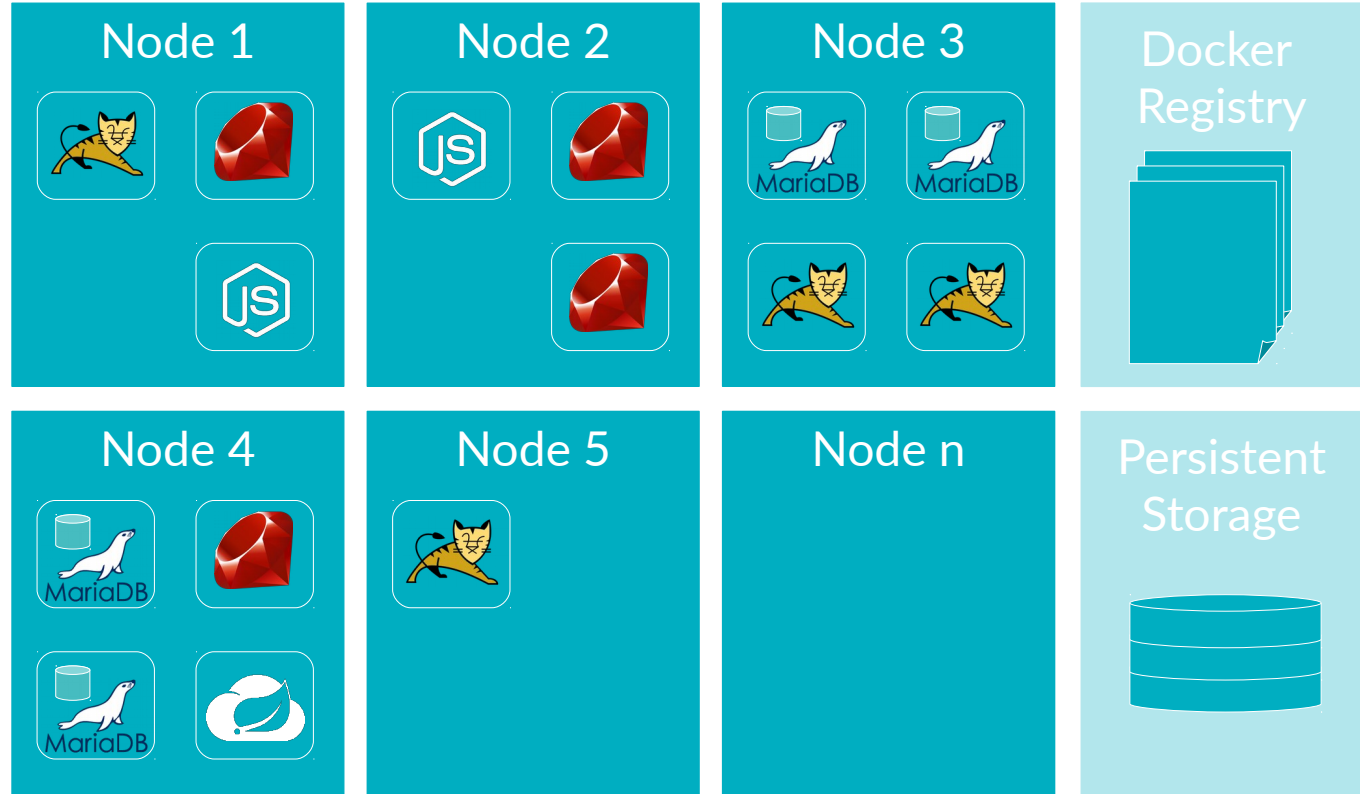
DEV

CI/CD

OPS



Loadbalancer, Ingress, Nodeport



Docker Host

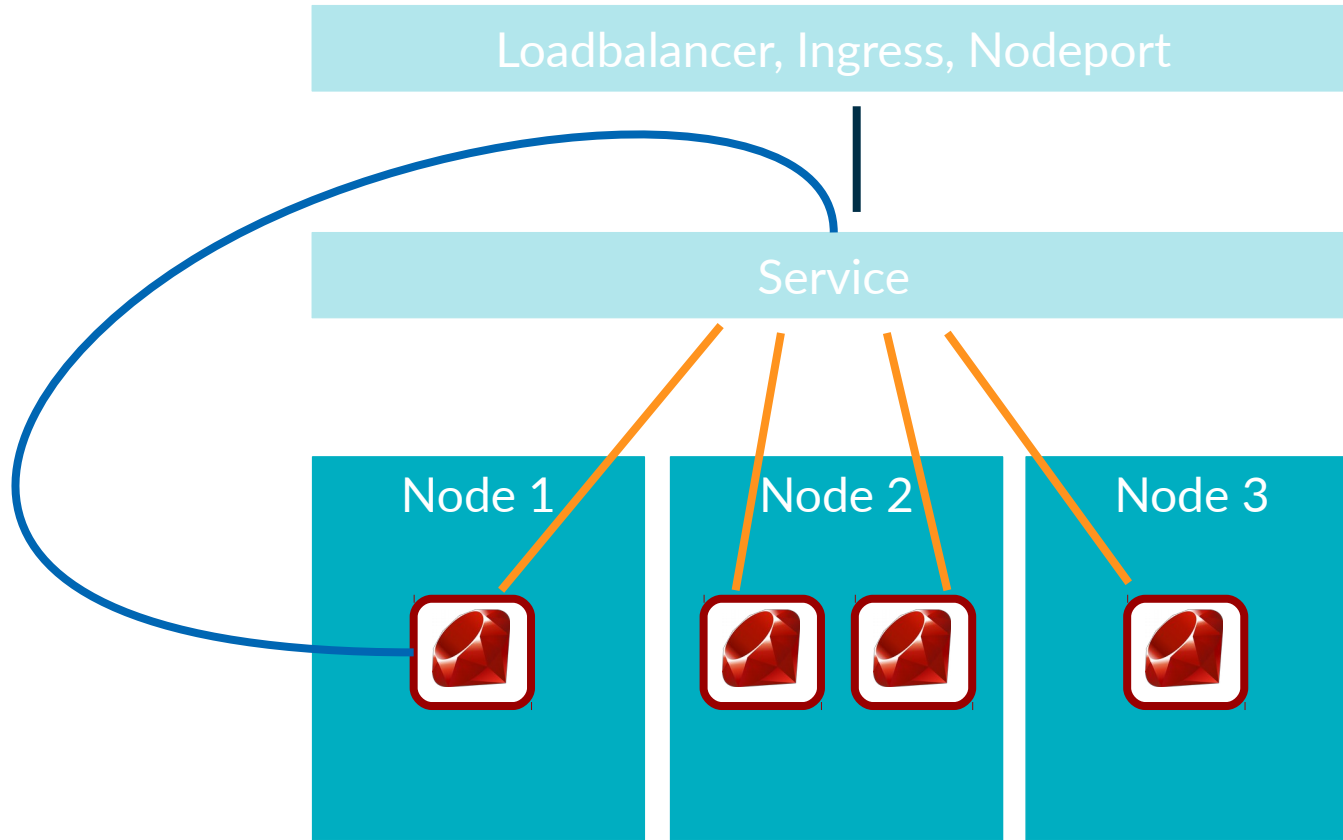
Virtual

Physical

Private Cloud

Public Cloud

Services Konzept



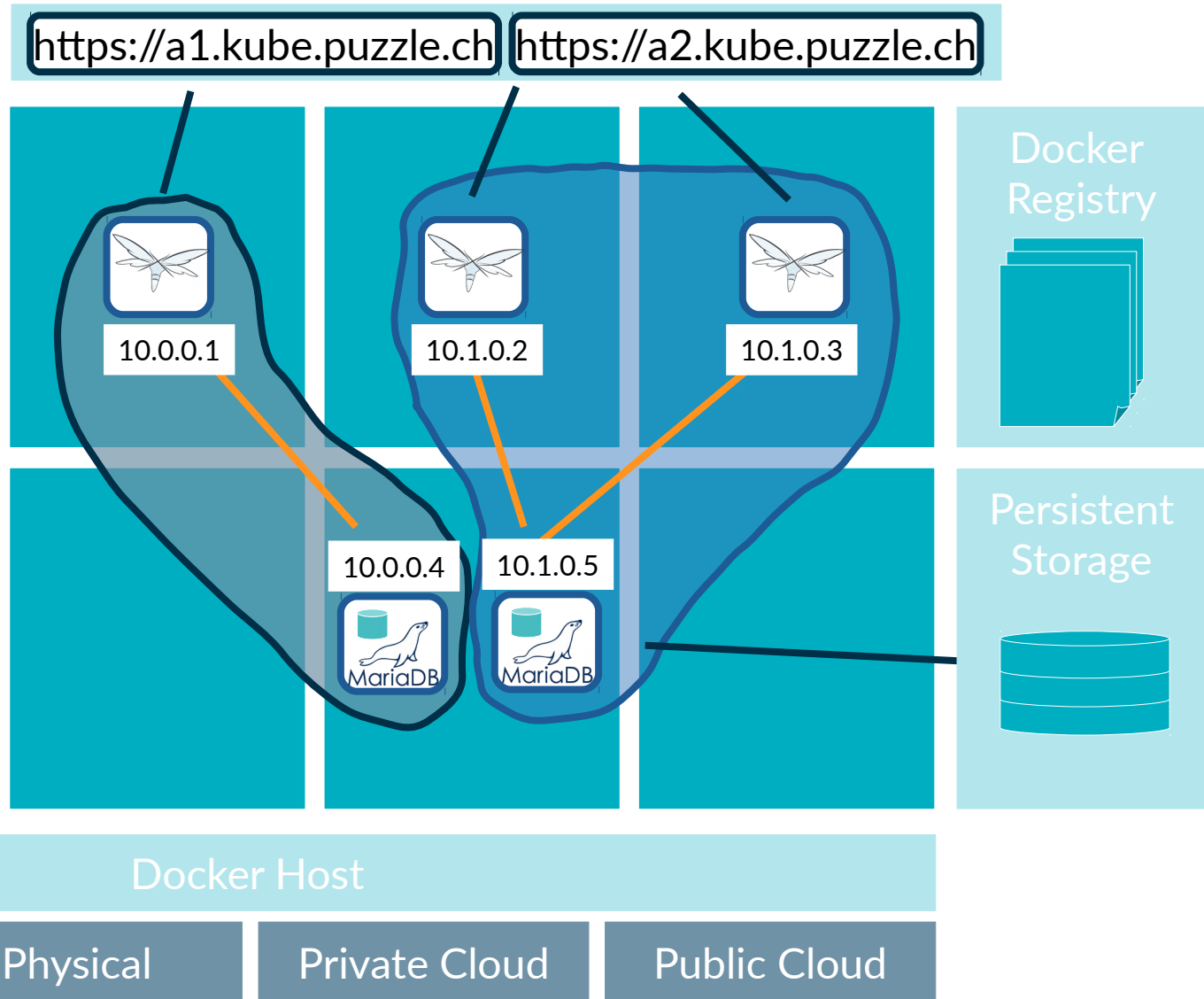
Kubernetes – Netzwerk

- Highly-coupled Container – Container Kommunikation
- Pod – Pod Kommunikation
- Pod – Service Kommunikation
- External to Service Kommunikation

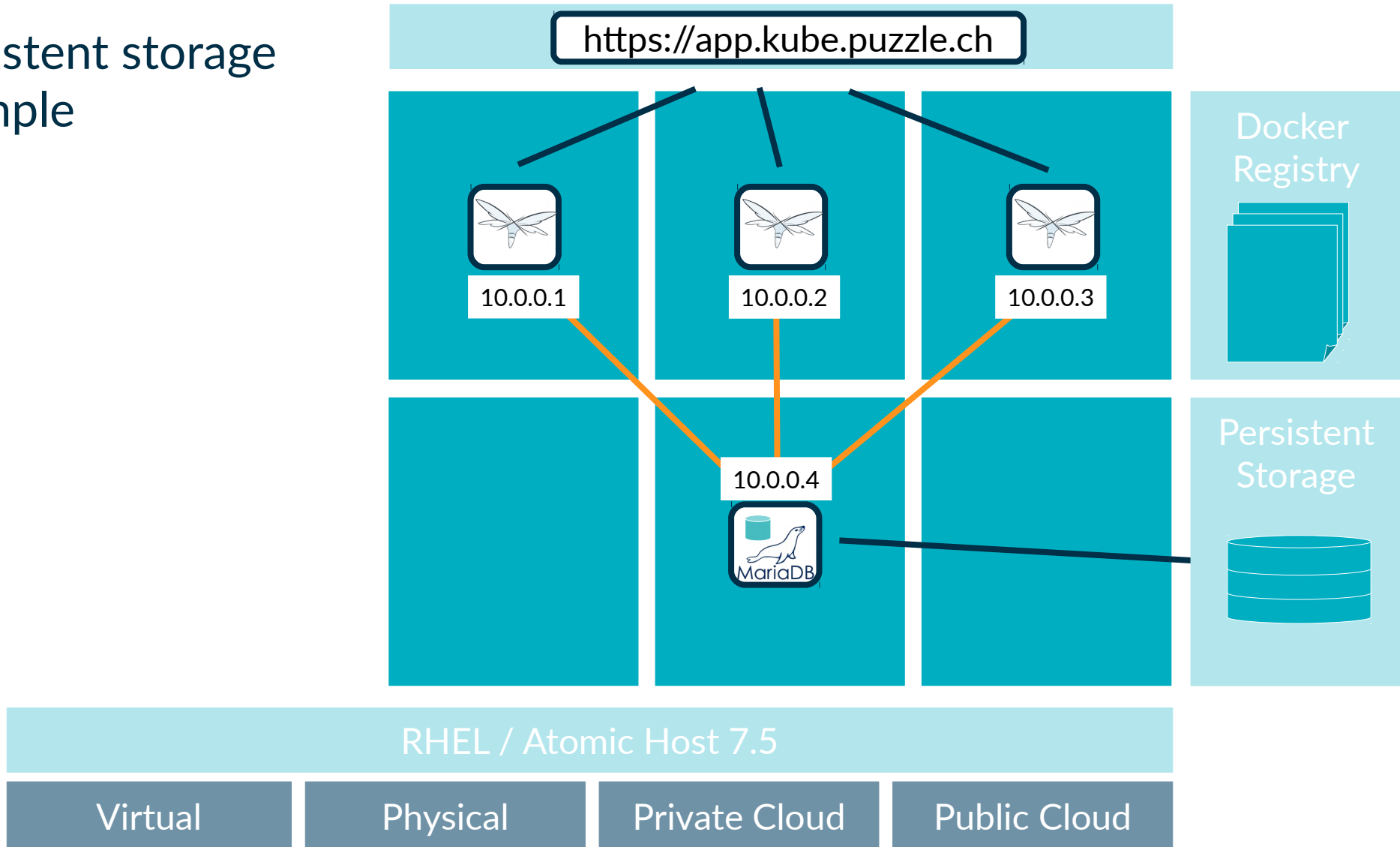
Kubernetes – Netzwerk Kubernetes Model

- Alle Container können untereinander ohne NAT kommunizieren
- Alle Nodes können mit allen Container ohne NAT kommunizieren
- Die IP die ein Container selber sieht, ist die selbe die alle andern sehen

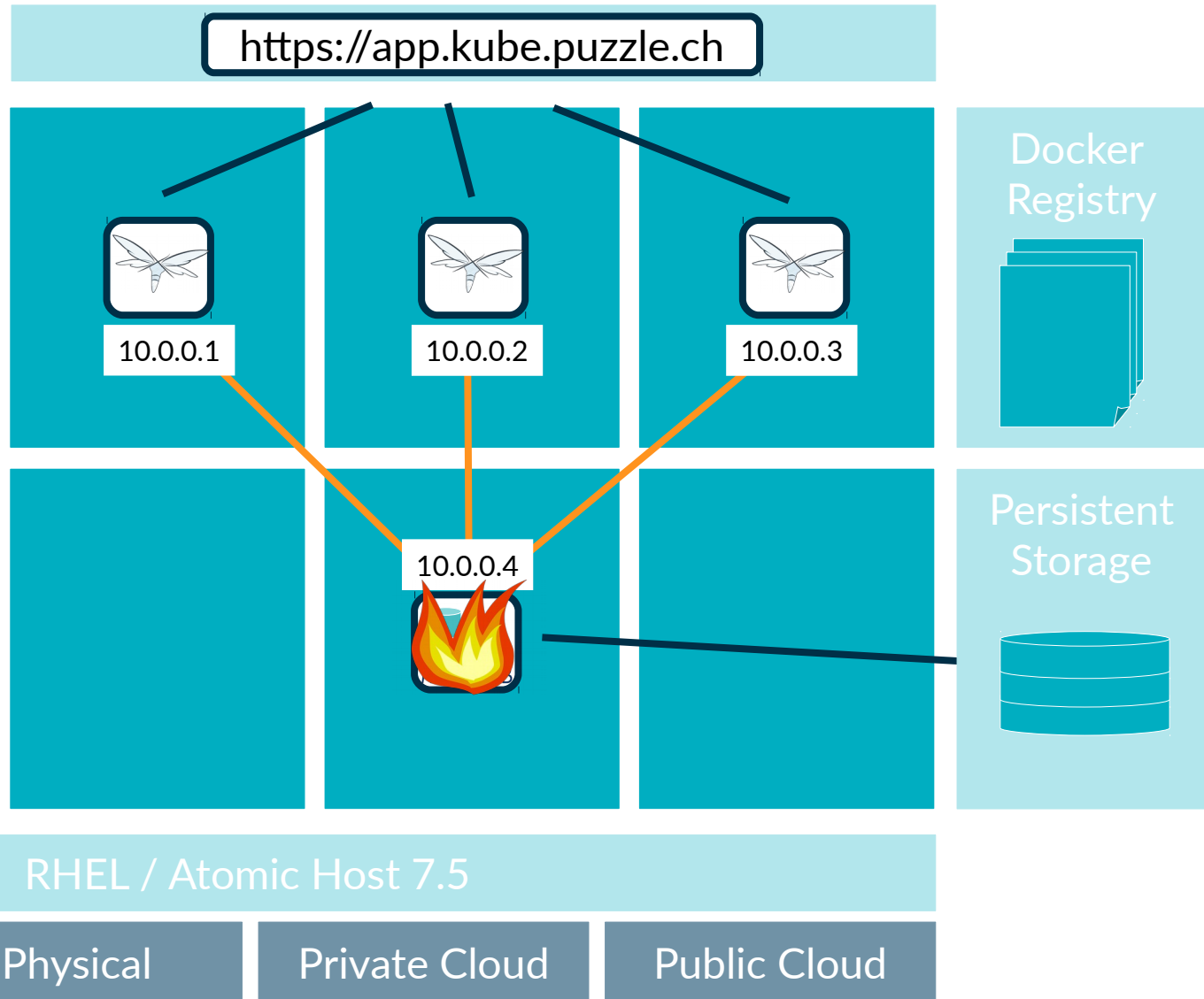
Example



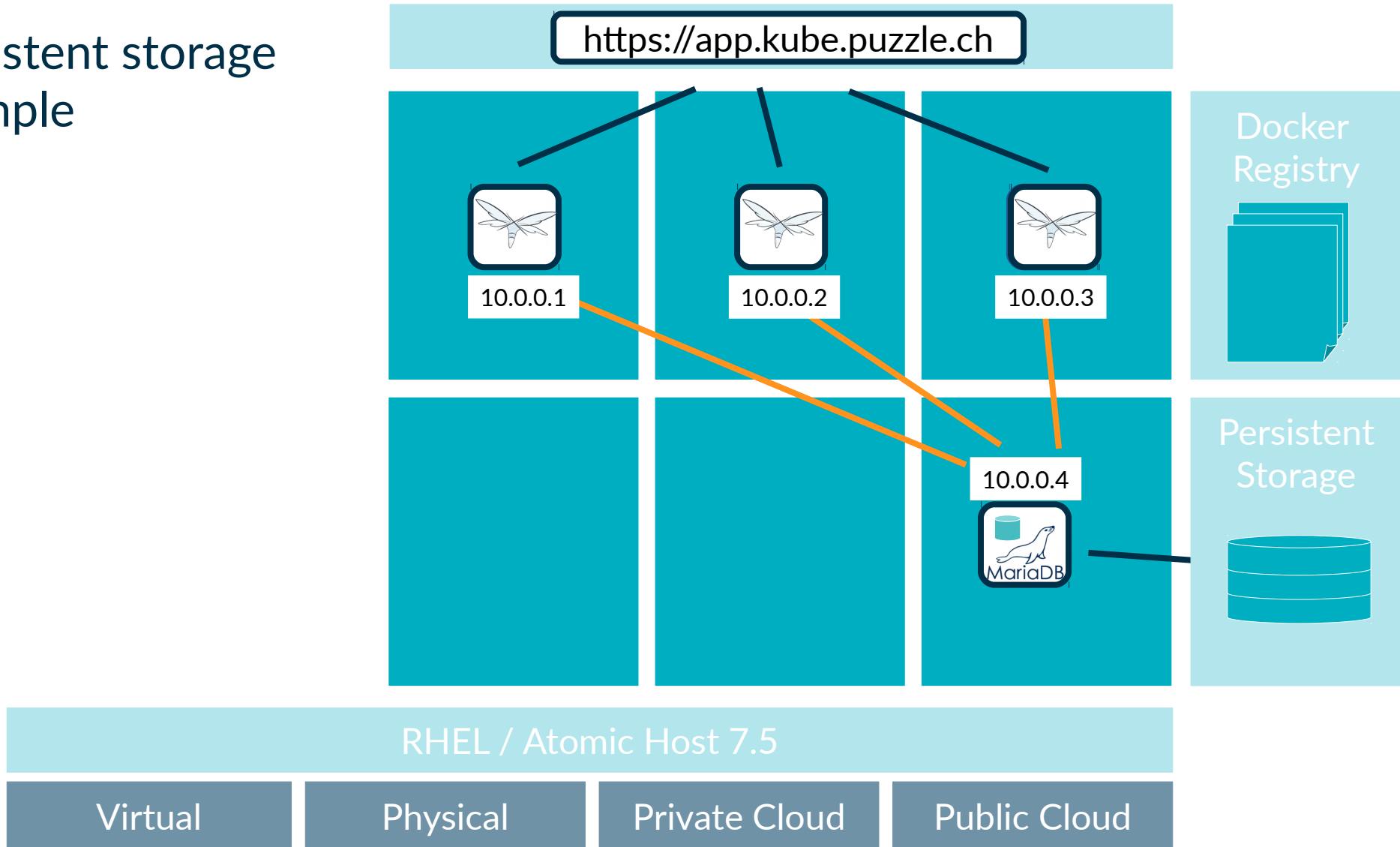
Persistent storage example



Persistent storage example



Persistent storage example

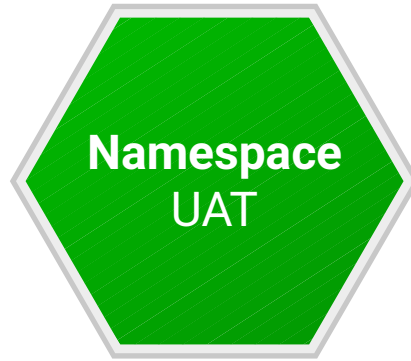
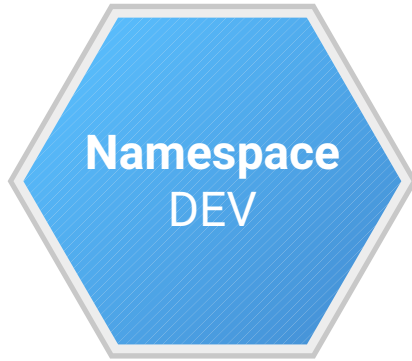


The top corners of the slide feature decorative geometric shapes. The top-left corner has overlapping triangles in shades of blue and teal. The top-right corner has overlapping triangles in shades of blue and teal, including a prominent teal diamond shape.

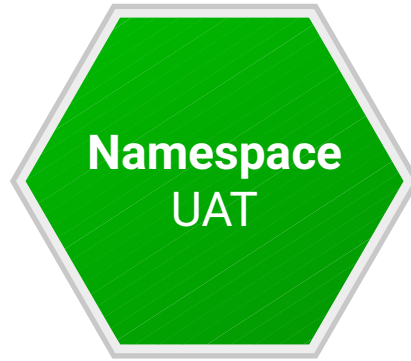
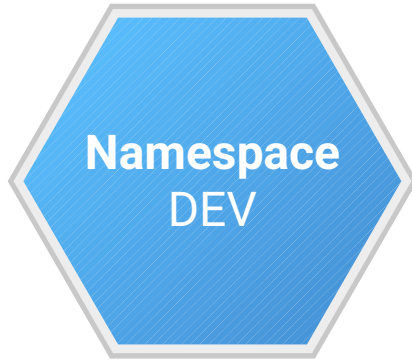
4

Managen von Ressourcen innerhalb eines Clusters

Kubernetes – Helm



Kubernetes – Kustomize



Kubernetes Kustomize

Thank you!

...for not having slept during the presentation

