unity GROUP

Wprowadzenie do Kubernetesa

/ 25.06.2022

/ Łukasz Biegaj

Agenda

1/ Czym jest Kubernetes

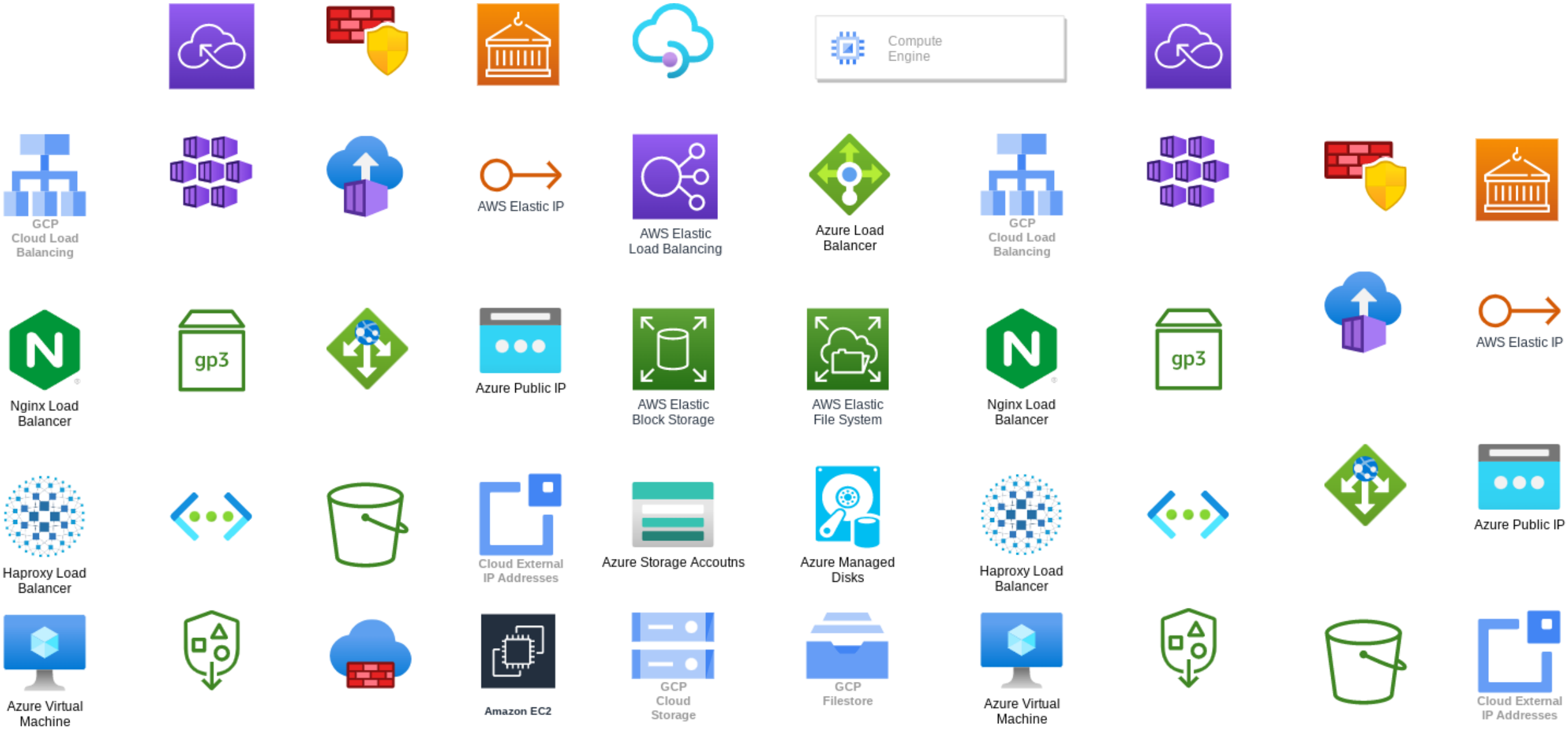
2/ Jak rozmawiać z Kubernetes

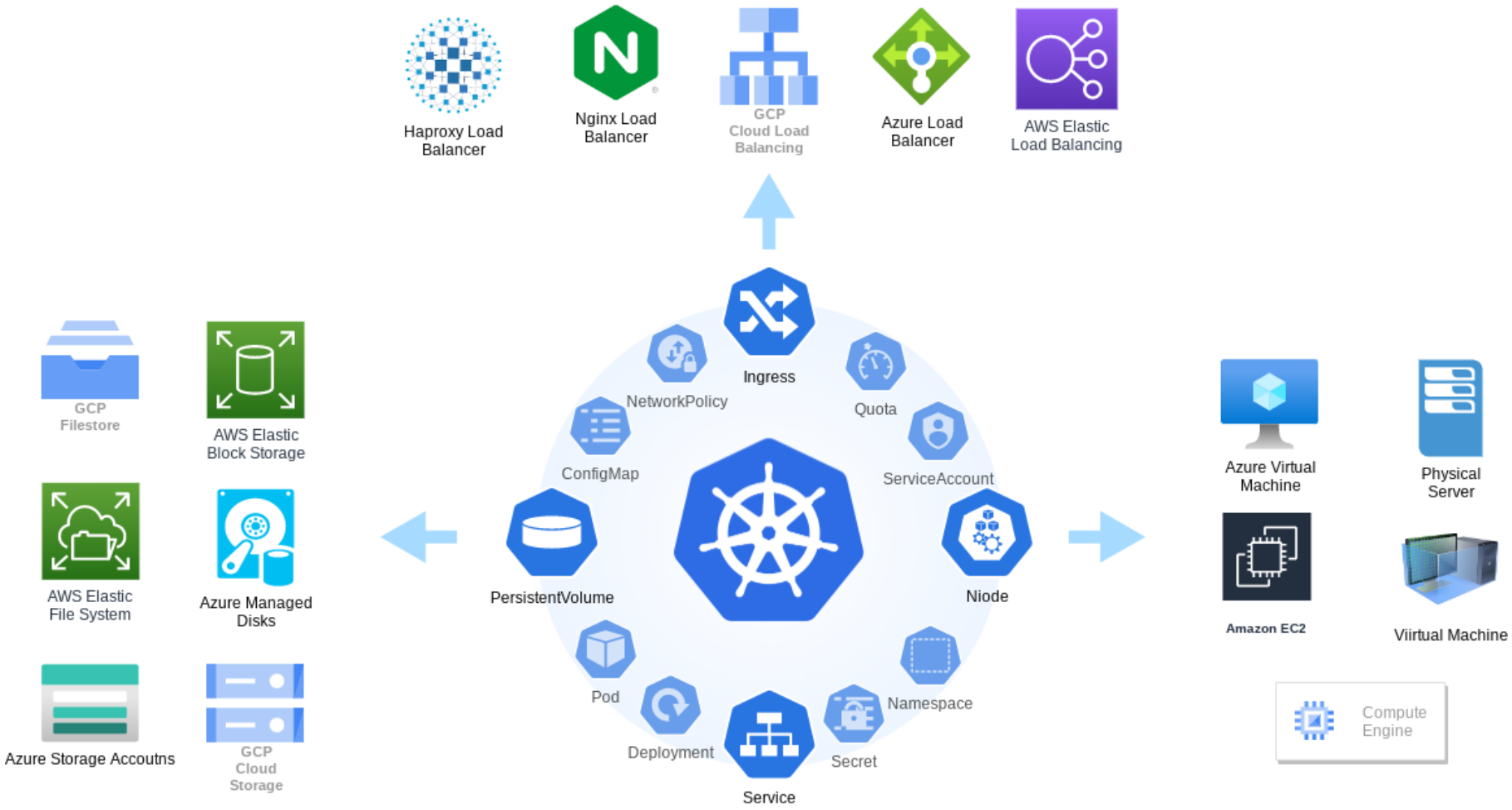
3/ Automatyzacja

4/ Narzędzia i zasoby

Czym jest Kubernetes

01/


Compute Engine
GCP Cloud Load Balancing
AWS Elastic IP
AWS Elastic Load Balancing
Azure Load Balancer
GCP Cloud Load Balancing
AWS Elastic IP
Nginx Load Balancer
gp3
Azure Public IP
AWS Elastic Block Storage
AWS Elastic File System
Nginx Load Balancer
gp3
AWS Elastic IP
Haproxy Load Balancer
Cloud External IP Addresses
Azure Storage Accoutns
Azure Managed Disks
Haproxy Load Balancer
Azure Public IP
Azure Virtual Machine
Amazon EC2
GCP Cloud Storage
GCP Filestore
Azure Virtual Machine
Cloud External IP Addresses
Name
Cloud Firewall Rules


Haproxy Load Balancer
Nginx Load Balancer
GCP Cloud Load Balancing
Azure Load Balancer
AWS Elastic Load Balancing
GCP Filestore
AWS Elastic Block Storage
AWS Elastic File System
Azure Managed Disks
Azure Storage Accoutns
GCP Cloud Storage
Ingress
NetworkPolicy
Quota
ConfigMap
ServiceAccount
PersistentVolume
Niode
Pod
Namespace
Deployment
Secret
Service
Azure Virtual Machine
Physical Server
Amazon EC2
Viirtual Machine
Compute Engine

Jak rozmawiać z Kubernetesem

02/

> Pod

```
apiVersion: v1
kind: Pod
metadata:
  name: hello-world
spec:
  containers:
  - image: nginx:1.21
    name: nginx
    ports:
    - containerPort: 80
      protocol: TCP
```

>

> ReplicaSet / DaemonSet / Job / ...

```yaml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: hello-world
spec:
  replicas: 2
  template:
    spec:
      containers:
      - image: nginx:1.21
        name: nginx
```

```yaml
apiVersion: v1
kind: Pod
spec:
  containers:
  - image: nginx:1.21
    name: nginx
```

```yaml
apiVersion: v1
kind: Pod
spec:
  containers:
  - image: nginx:1.21
    name: nginx
```

> Deployment

```
apiVersion: v1
kind: Deployment
metadata:
  name: hello-world
spec:
  replicas: 3
  selector:
    matchLabels:
      name: hello-world
  template:
    ...szablon setu...
```

>

```
apiVersion: v1
kind: ReplicaSet
metadata:
  name: hello-world
spec:
  replicas: 3
  selector:
    matchLabels:
      name: hello-world
  template:
    ...szablon setu...
```

>

```
apiVersion: v1
kind: Pod
spec:
  ...
```

```
apiVersion: v1
kind: Pod
spec:
  ...
```

```
apiVersion: v1
kind: Pod
spec:
  ...
```

> Service

```
apiVersion: v1
kind: Service
metadata:
  name: moj-serwis
spec:
  selector:
    app: moja-aplikacja
  ports:
    - protocol: TCP
      port: 80
      targetPort: 3137
```

>

Stały adres IP

Oraz nazwa DNS która na niego wskazuje

> Ingress

```yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: minimal-ingress
spec:
  ingressClassName: nginx
  rules:
  - http:
      paths:
      - path: /api
        pathType: Prefix
        backend:
          service:
            name: moj-serwis
            port:
              number: 80
```

>

Load Balancer kierujący ścieżkę /api do wybranego serwisu

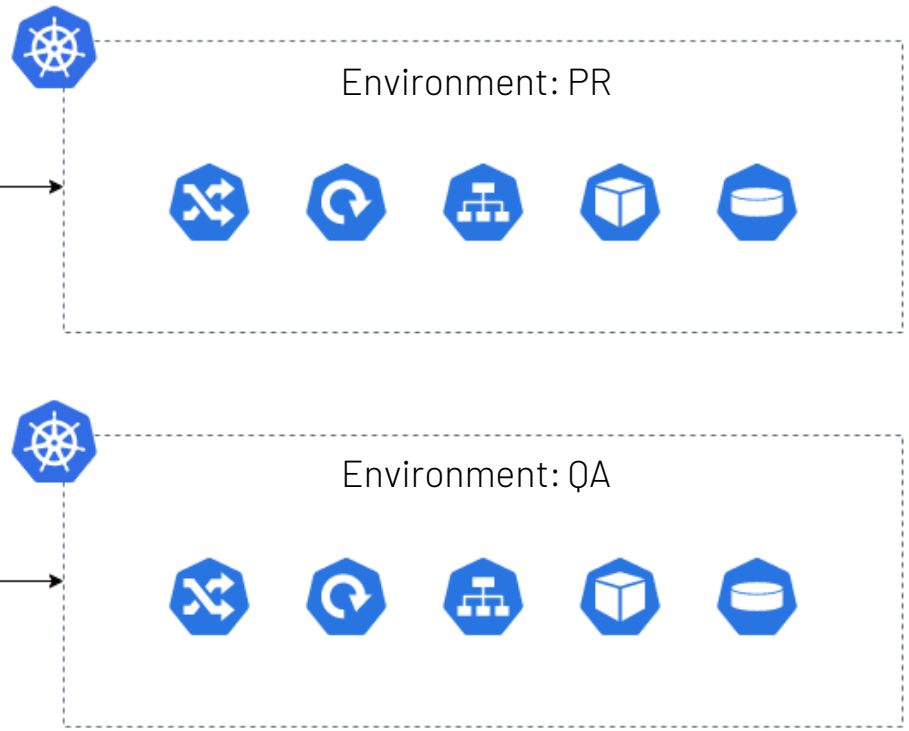
Automatyzacja

03/

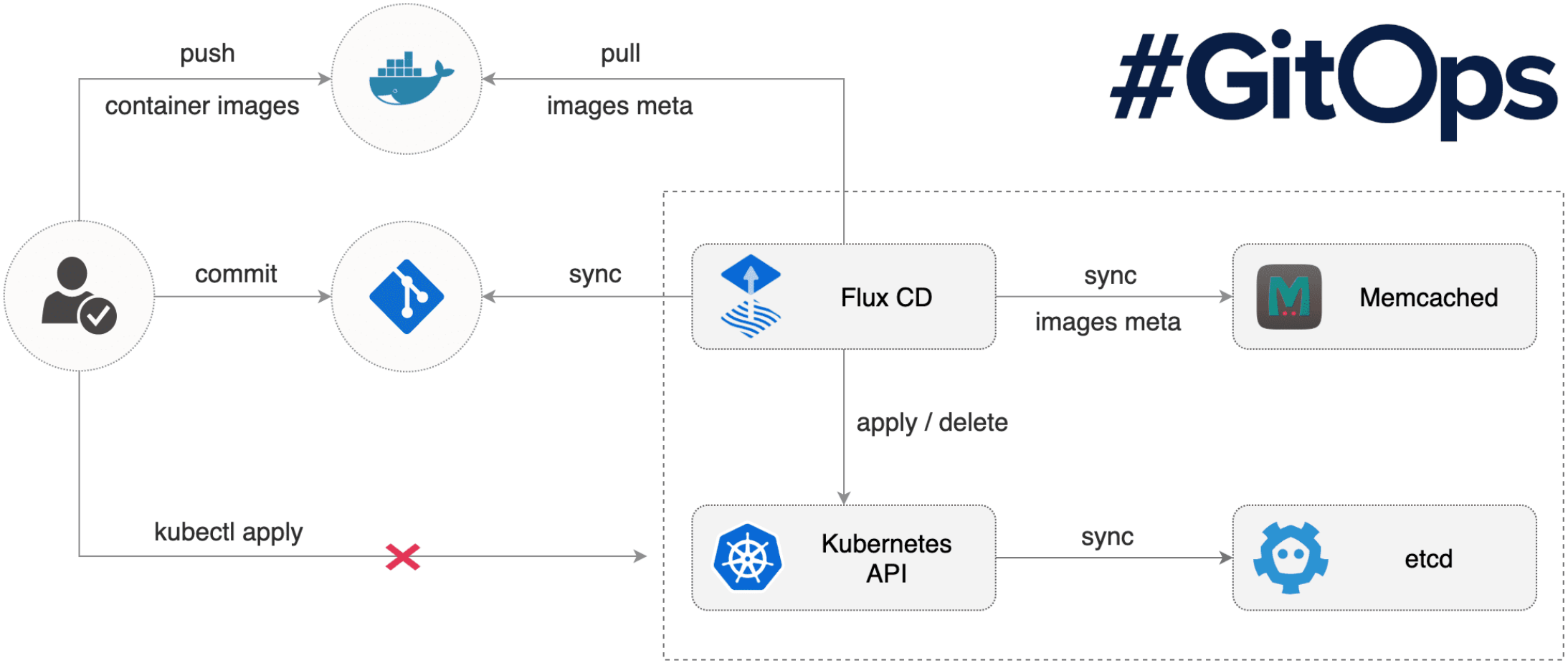
> Helm


```
wordpress/
    Chart.yaml
    LICENSE
    README.md
    values.yaml
    values.schema.json
    charts/
    crds/
    templates/

    templates/NOTES.txt
```



> Flux



https://fluxcd.io/

Narzędzia i zasoby

04/

> Własny klaster Kubernetes

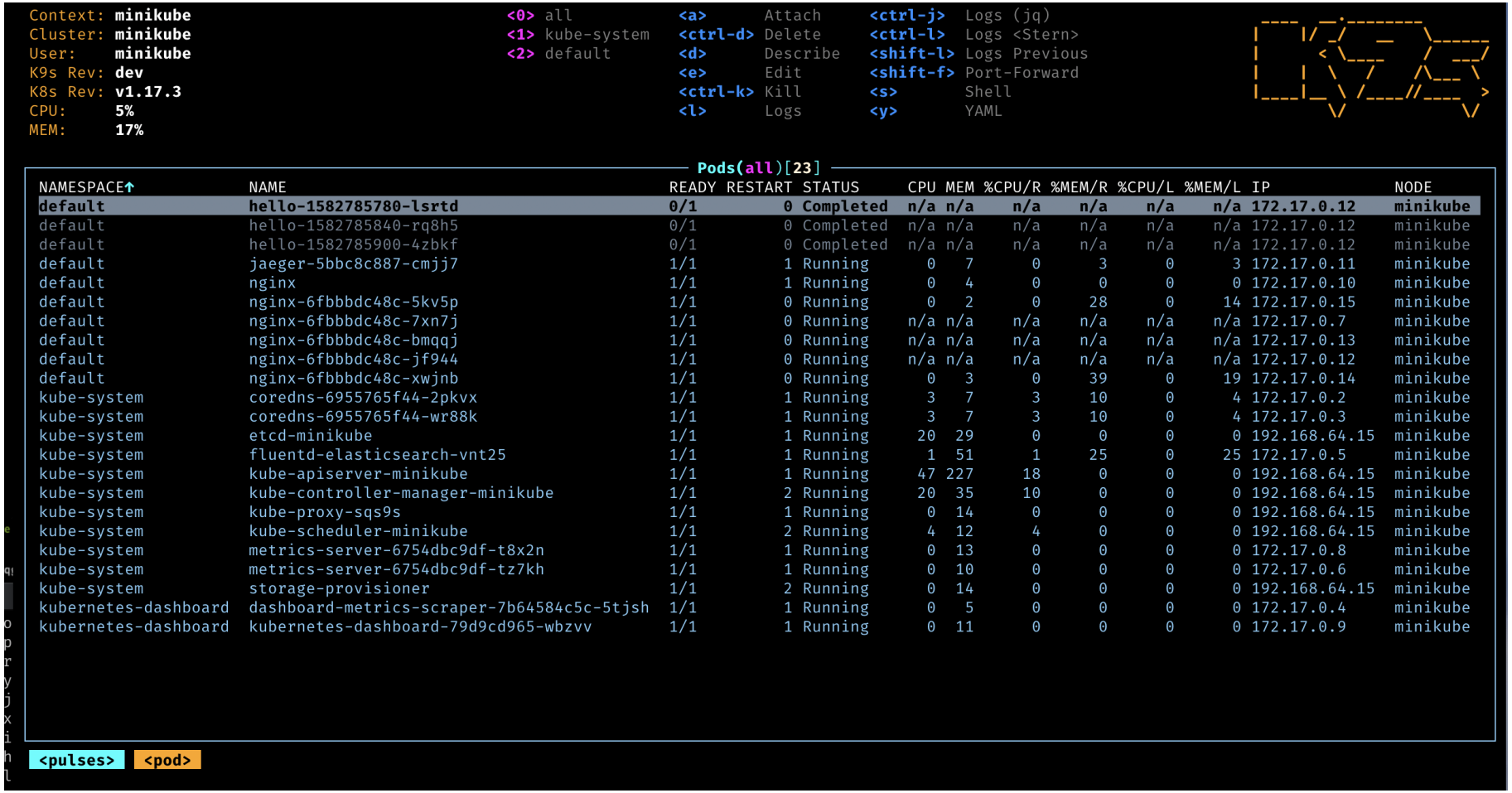
Microk8s

Zero-ops, pure-upstream Kubernetes,
from developer workstations to production.
https://microk8s.io/

K3s

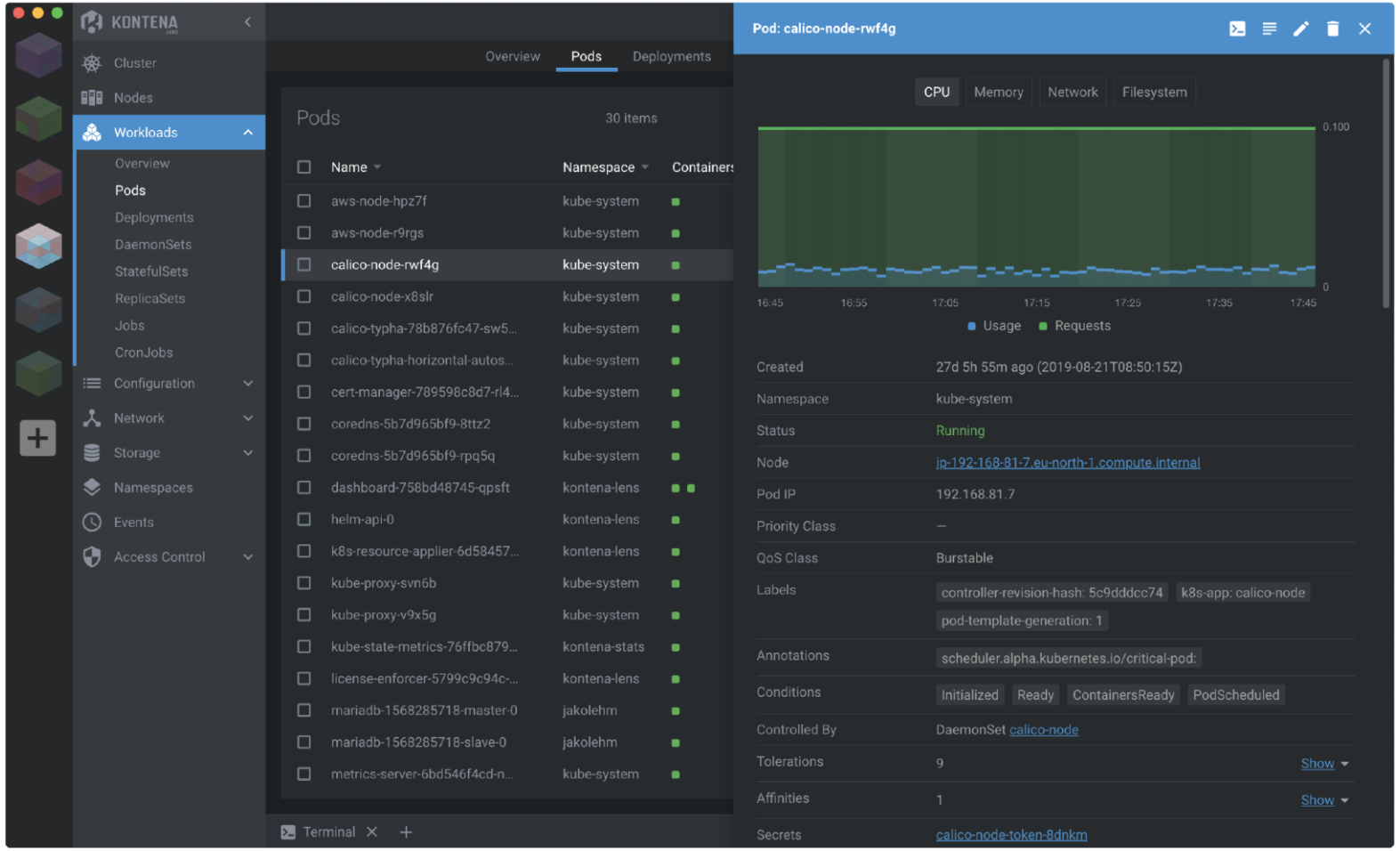
The lightweight Kubernetes distribution, certified and built for IoT & Edge computing
https://k3s.io/

> k9s



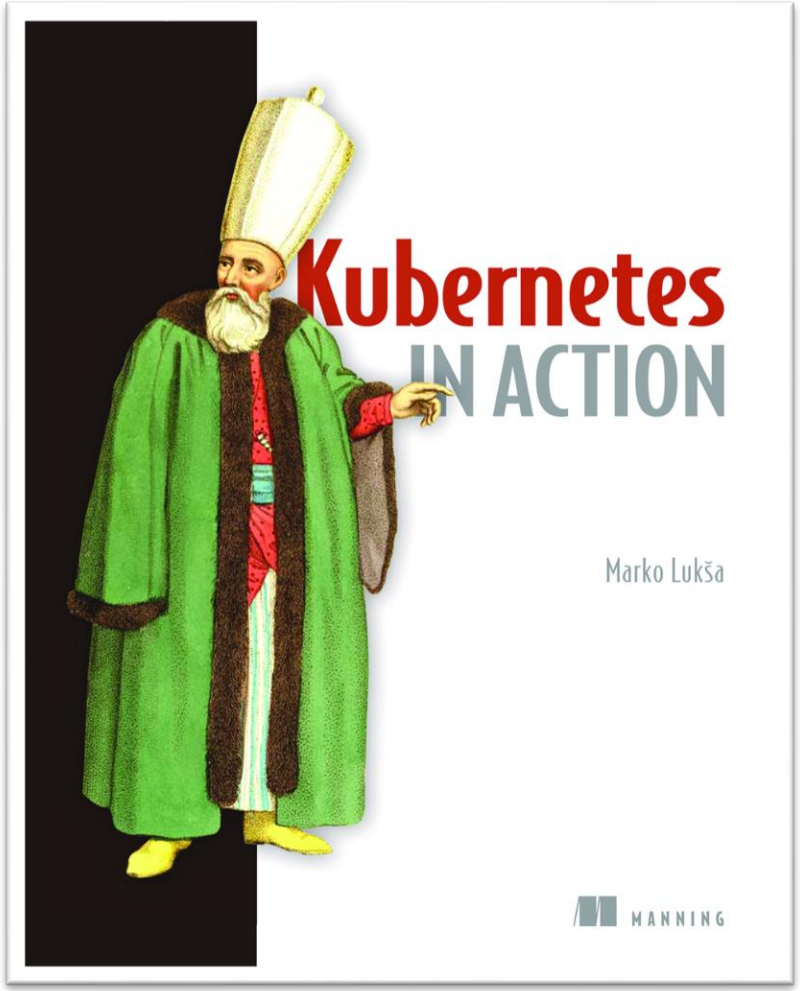
https://k9scli.io/

> K8S Lens – the Kubernetes IDE



https://k8slens.dev/

> Kubernetes in Action



https://www.manning.com/books/kubernetes-in-action

Repozytorium z materiałami z prezentacji

- Definicje dla tworzonych obiektów
- Niniejsza prezentacja

https://github.com/lpiob/phpers-summit-2022


25
YEARS

Magento 2

aws

DATO CMS

Spryker

strapi

shopify

Kontent. by Kentico

ONe

Our Clients:

GENERALI

RTV EURO AGD

WITTCHEN

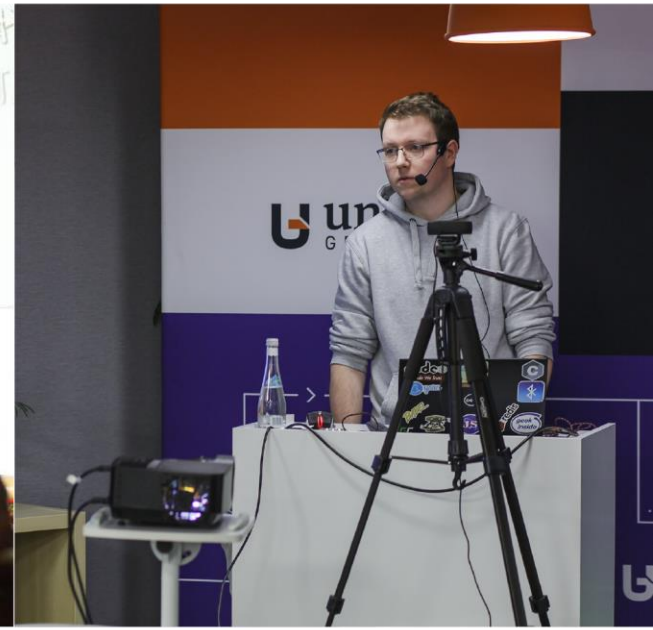
VOLKSWAGEN GROUP POLSKA

400 Developers

+50 specjalistów PHP

Łukasz Biegaj



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FRONTERS

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Przyjdź i poznaj nas na naszym stanowisku!

Thank You

unitygroup.com