

IT Zajednica Rijeka

Cloud-native App Development

Filip Pravica

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What is cloud native

- Cloud Native Computing Foundation (CNCF)
 - Cloud Native is about scale and resilience
 - Distributed systems capable of scaling to tens of thousands of self healing multi-tenant nodes

www.cncf.io

What is cloud native 2

- Technologies such as:
 - containers
 - microservices
 - serverless functions
 - immutable infrastructure
- but not only a technology or a tool set
- it is a philosophy, culture and strategy

What isn't cloud native

- moving exsisting workloads to the servers rented from the cloud provider
- copying the same hardware network setup principles to the cloud
- not using cloud security policies

Cloud native engineer

- increasing in demand in the last 2 years
- ground-floor opportunity
- junior dev vs. senior dev
- small agency vs. legacy enterprise providers

Where to start

- learn docker basics
- play with orchestration
 - docker-compose
 - kubernetes (minikube)
- check out the cloud providers
 - API gateways
 - serverless functions
 - static websites
 - ci/cd, databases, messaging

Where to continue

- event-driven architecture
- cloud native patterns
- serverless workflows
- specialize

How it started...

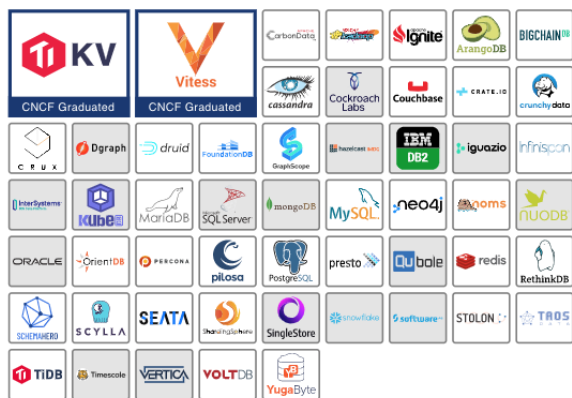
- Kubernetes 1.0 donated to Linux Foundation by Google
- In 2015 Cloud Native Computing Foundation
- 20 founding members to help advance container technology
- Google, CoreOS, Mesosphere, Red Hat, Twitter, Huawei, Intel, Cisco, IBM, Docker, Univa, and VMware

How it's going...

- today more than 500 members
- a huge landscape
- main fields:
 - app definition and developemnt
 - orcherstration and management
 - runtime
 - provisioning
 - observability and analysis

...imagine a fullstack dev here ;)

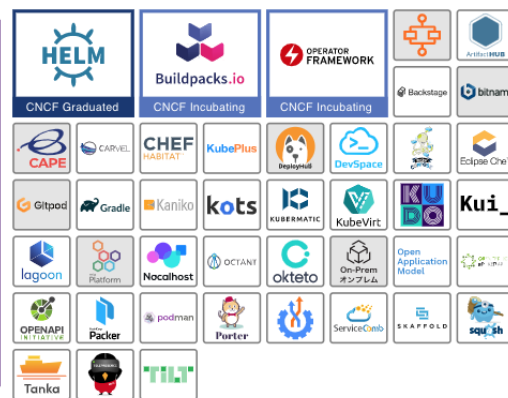
Database



Streaming & Messaging



Application Definition & Image Build



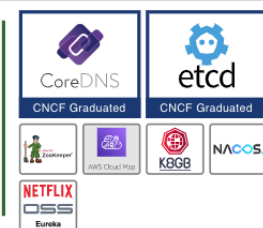
Continuous Integration & Delivery



Scheduling & Orchestration



Coordination & Service Discovery



Remote Procedure Call



Service Proxy



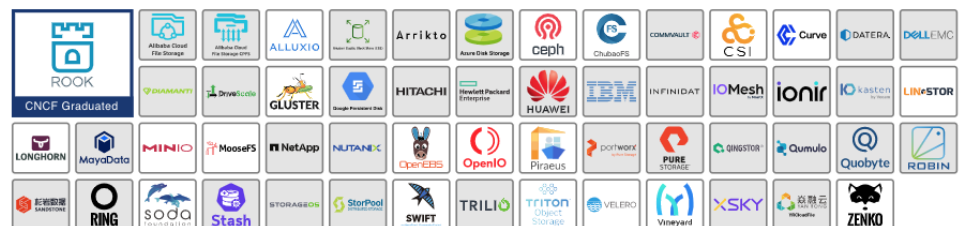
API Gateway



Service Mesh



Cloud Native Storage



Container Runtime



Cloud Native Network



Automation & Configuration



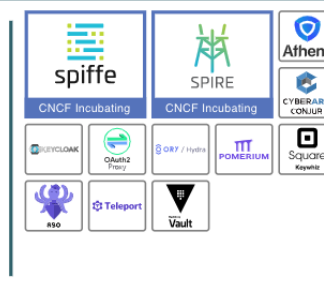
Container Registry



Security & Compliance



Key Management



Platform

Certified Kubernetes



Certified Kubernetes



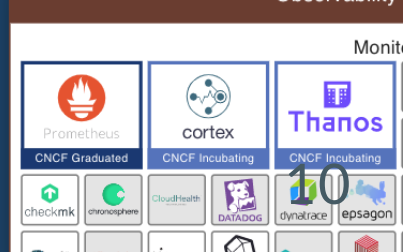
Certified Kubernetes



PaaS/Container



Observability



CNCF

- www.cncf.io
- landscape.cncf.io
- radar.cncf.io