

Consume K8s in your laptop to achieve greatness!

Buffalo VMware User Group

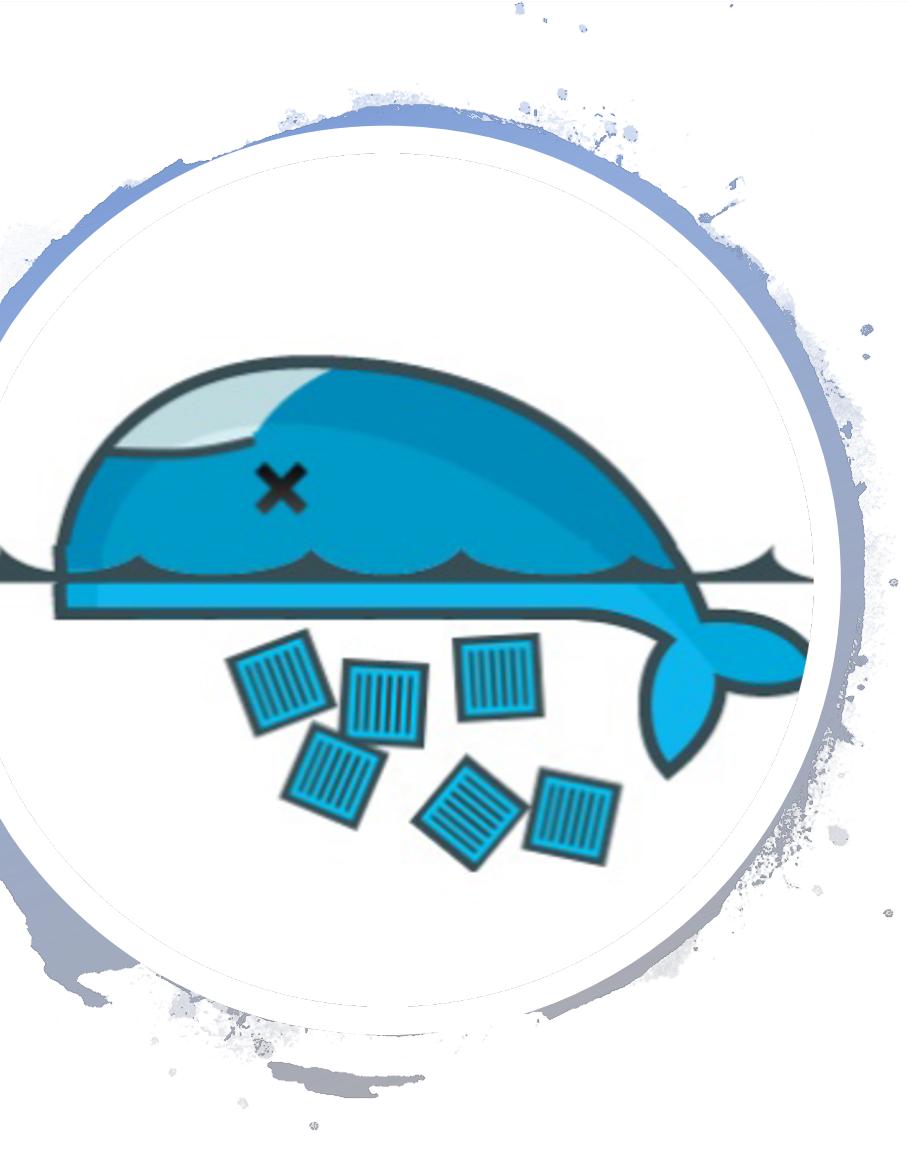


Who Am I?



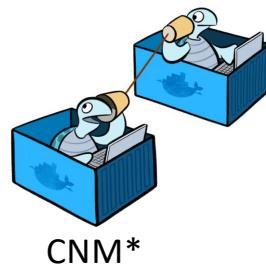
- Human based in Mexico city
- Sr. SE specialist @ MAPBU Vmware
- K8s Imposter and VCDX NV wannabe
- Stamps from VMware:
 - http://bit.ly/vRay_badges
- AI/ML lover and eBPF fanboy
 - @elnemesisdivina
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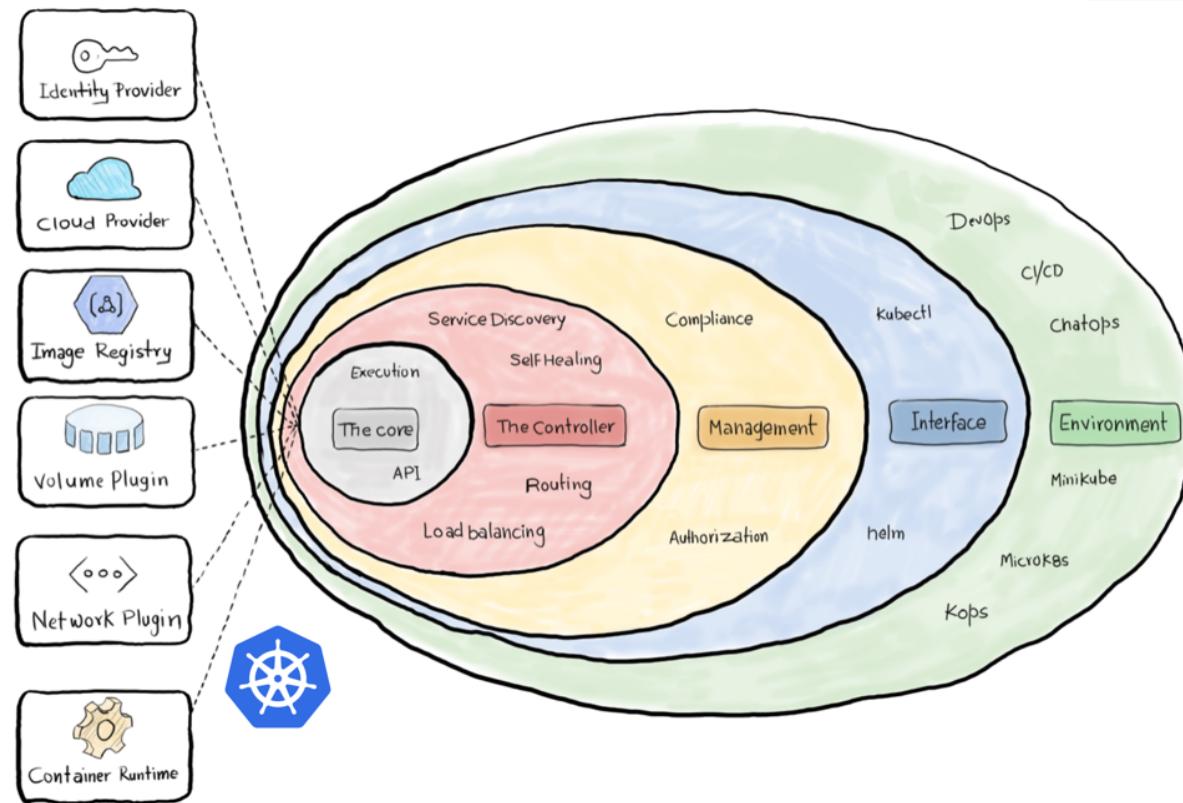
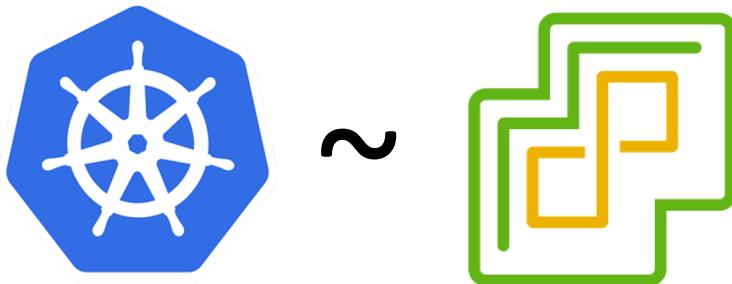
Docker in a nutshell

In a way, Docker is a bit like a virtual machine. But unlike a virtual machine, rather than creating a whole virtual operating system, Docker allows applications to use the same Linux kernel as the system that they're running on and only requires applications be shipped with things not already running on the host computer. This gives a significant performance boost and reduces the size of the application

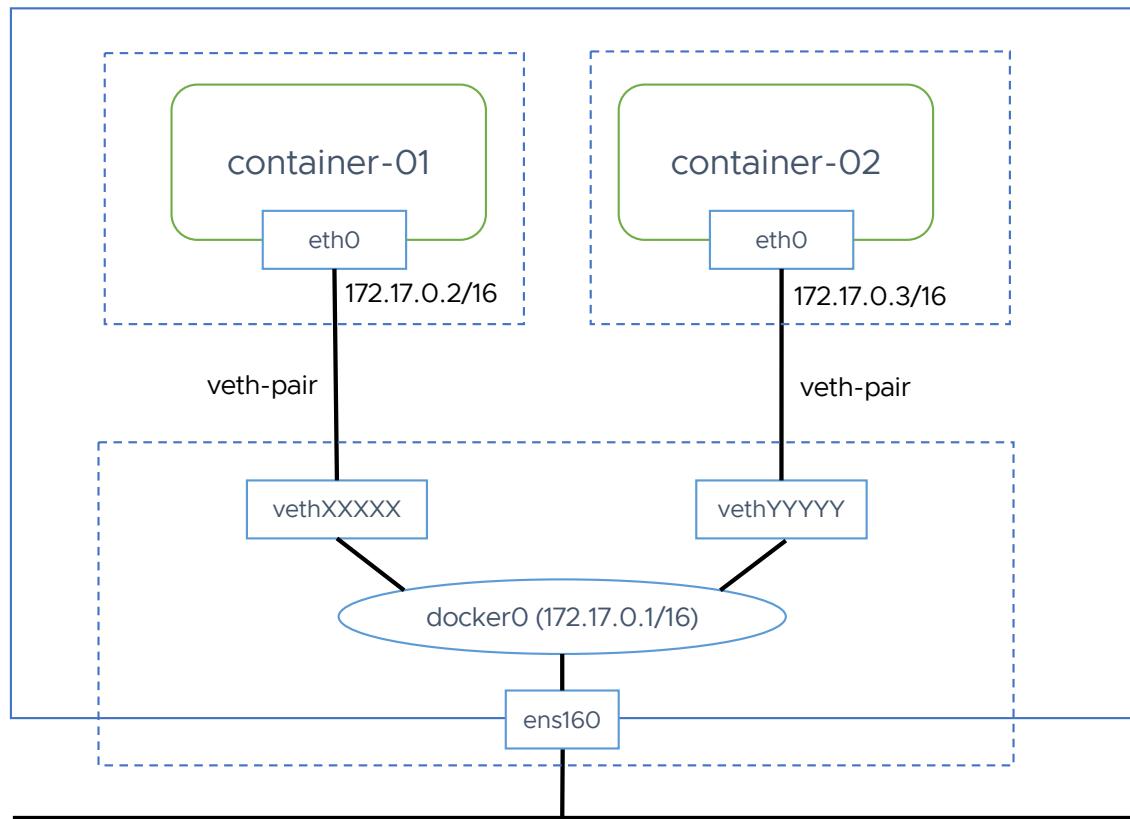


You need to goo some deep on
some docker commands *

K8s in a nutshell

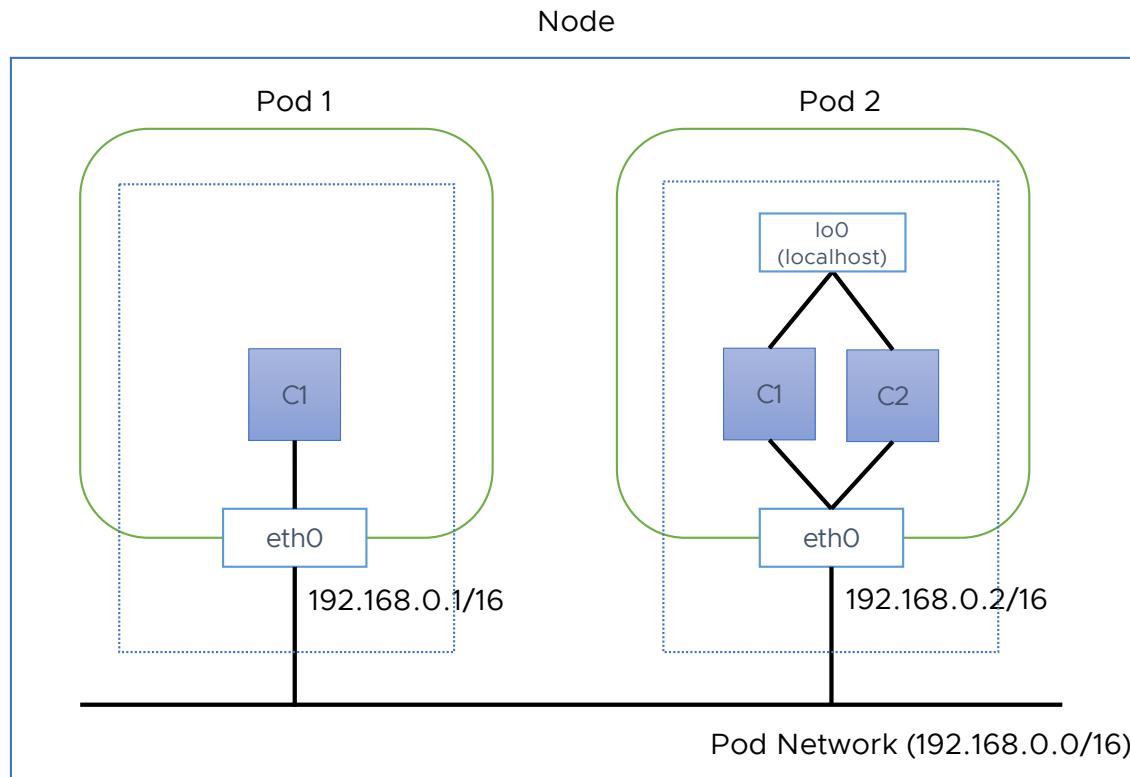


Docker Network



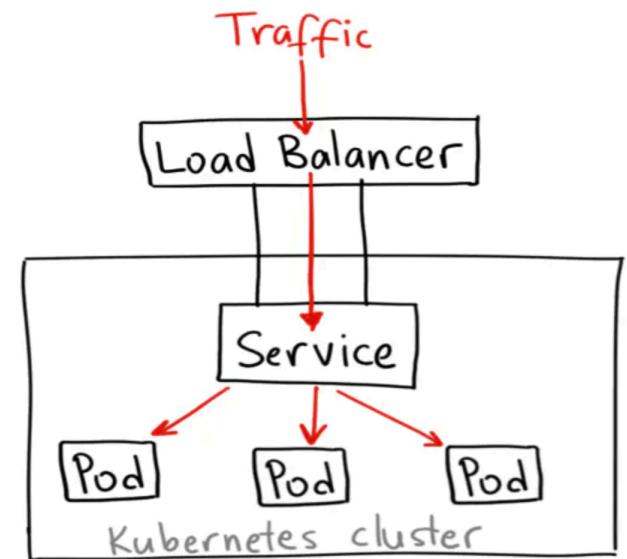
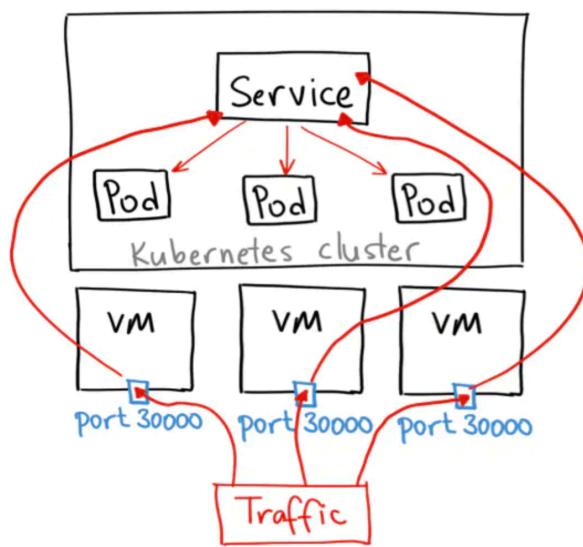
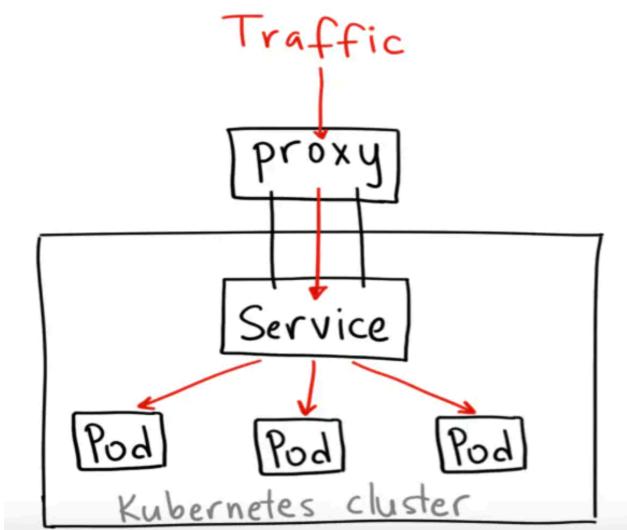
- A veth-pair between container and host is created and put into different name spaces.
- Bridge interface called “`docker0`” is created on a host and all veth interfaces are connected to this bridge.
 - `172.17.0.1/16` will be assigned to `docker0` interface by default.
- Each container will get an IP address that belongs to the `docker0` interface.
- Default gateway of each container will point to `docker0` interface
- Packets will be SNAT-ed (IP masquerade) at `docker0` when leaving the host.

Kubernetes Network Model (intra-nodes)

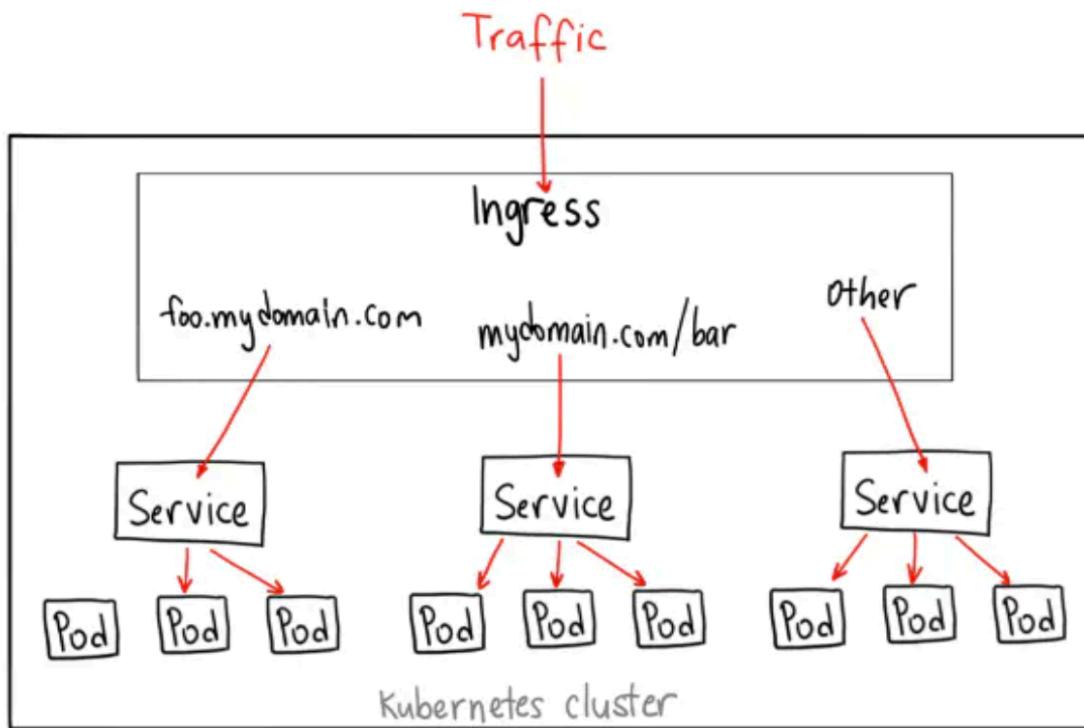


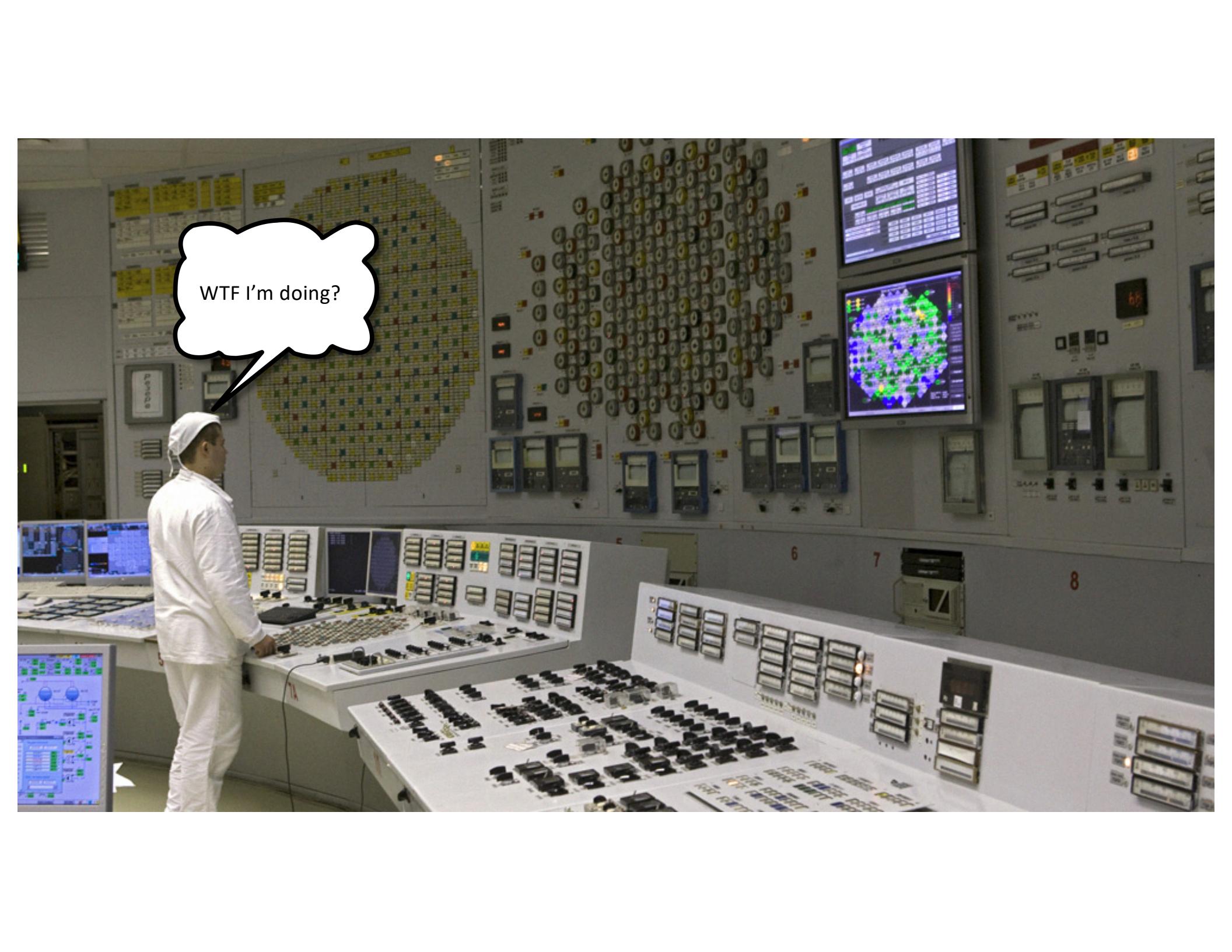
- IP address will be assigned to a “Pod” from one of the Pod Network Pool
- In case of more than 1 containers present in a Pod, they are in the same namespace sharing network interface.
- Containers in the same Pod can talk with each other via “localhost”
 - While the port number arbitration within a Pod is still required, no need for arbitration between Pods.

Services on K8s



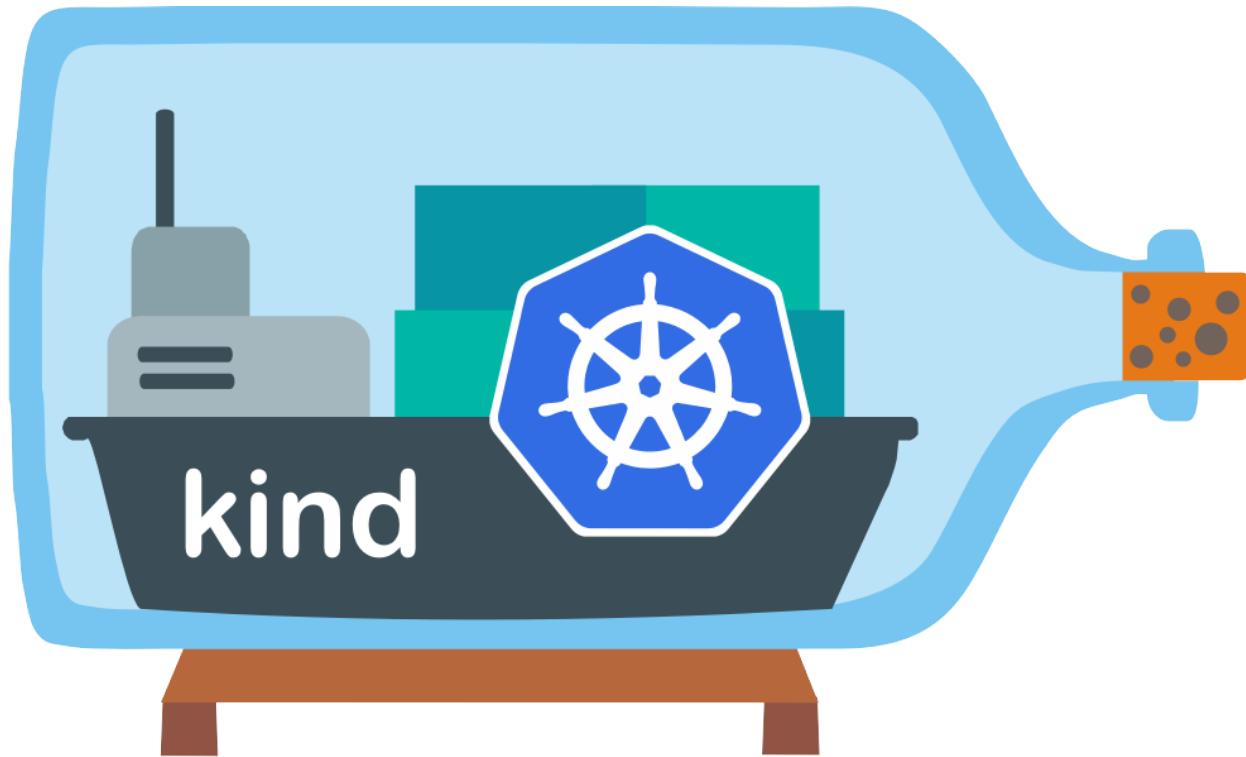
Extra ball!





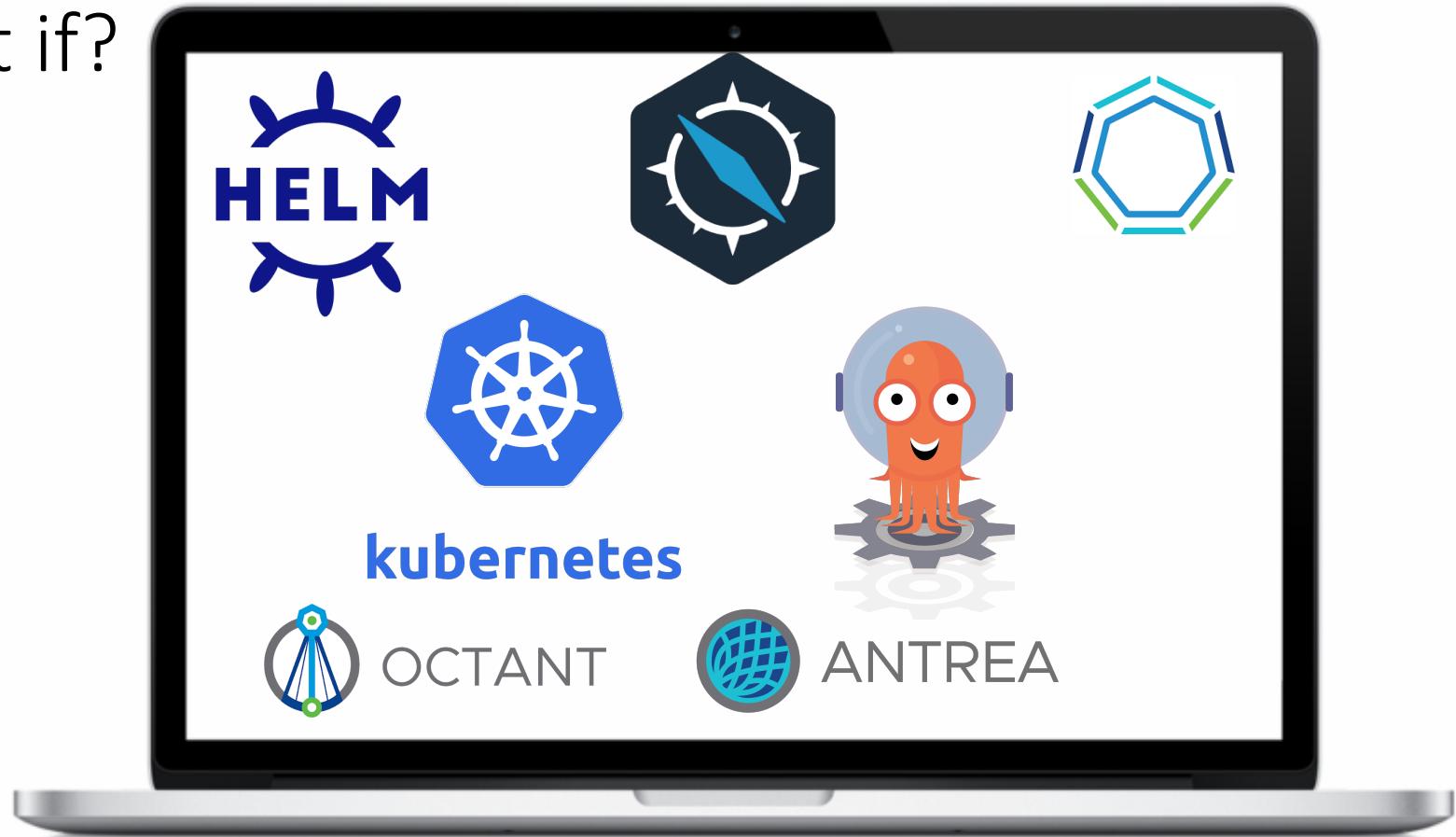
WTF I'm doing?

kind is a tool for running local Kubernetes clusters using Docker container "nodes"



<https://github.com/kubernetes-sigs/kind>

What if?



A kind demo!