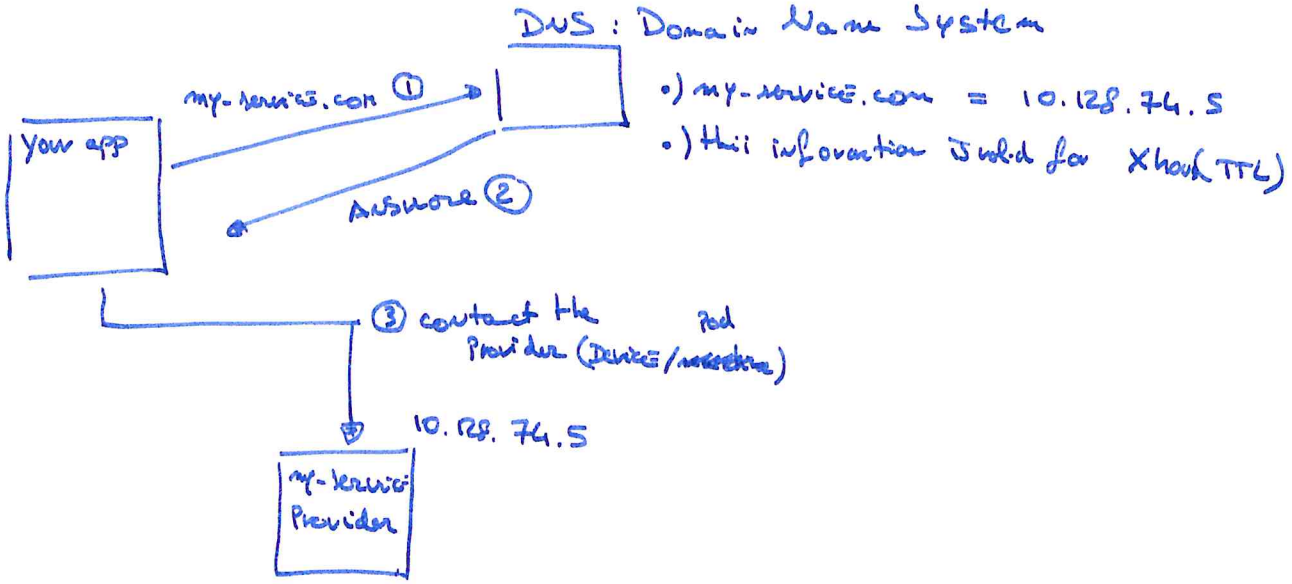
SERVICE

Problem to solve? How Does find this? (pod in general)

Starting from the basic: How do I find a website?



But you need to be Highly Available!

What happens when your pod (device) goes offline?

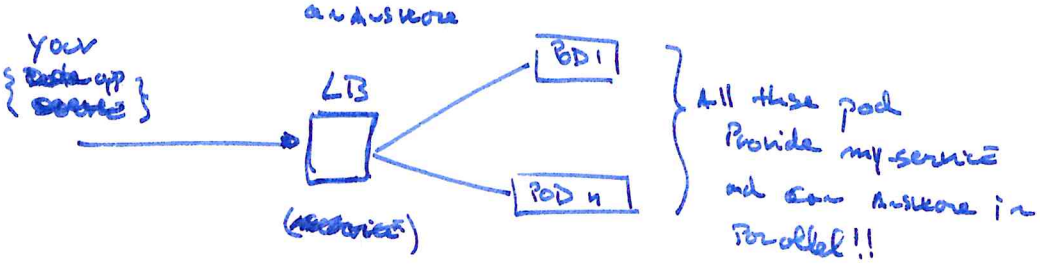
your app will fail, and due to the TTL wont receive a new ip for a while...

Solutions?

① Answere with max ips (Does not scale well!

② ADD a LB infront of your app!

So ideally you can Point at it and you will always have an Answere

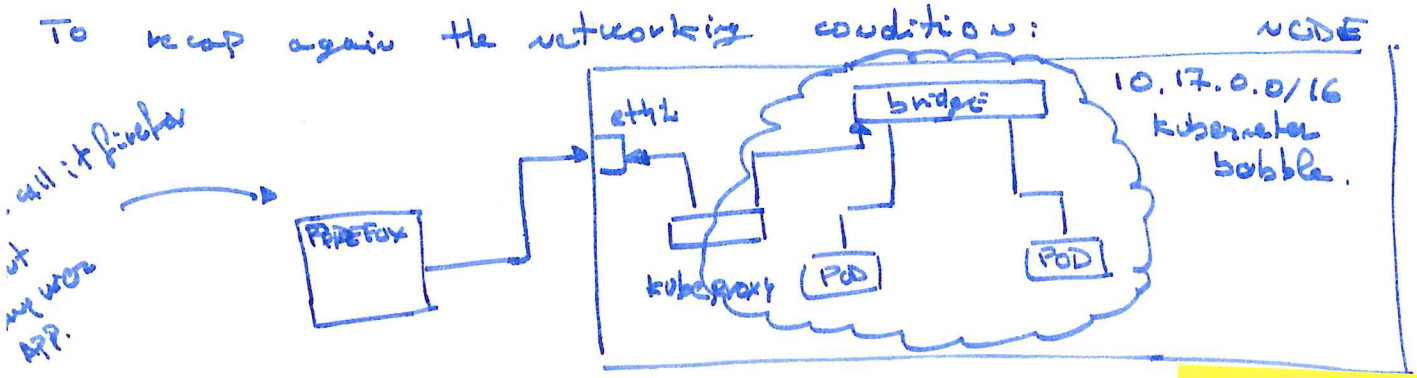


~~Not All Kub. services provide LB, But only the one is called LB!!~~

In kubernetes the internal DNS (core-DNS) points to a resource of kind Service that acts as a "LB"

⚠ it is a LB between pods!! But Does not grant per se high availability UNLESS it is a LB service. (more details later)

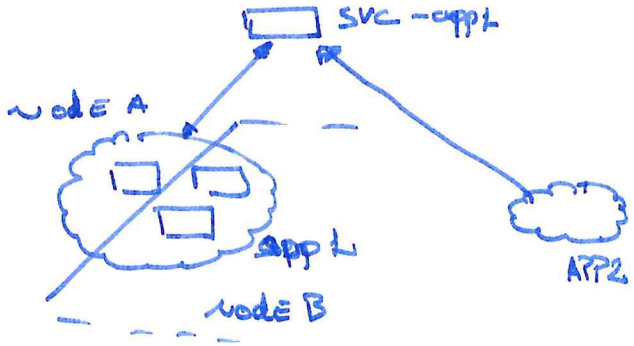
To recap again the networking condition:



In reality kubeproxy Acts on iptables nat table.

① Services instruct kbeproxy on How to handle traffic to the pods [nodeports, LB]
→ not part of stD kub.... You need Plugins from 3rd parties.

② Services can offer cluster-ip that are real loadbalancer for other pods!



if APP2 tries to access APP1 Directly ~~And a pod fail~~ to a pod and that pod fail ~~APP 2~~ wont be able to work until ~~it discover a new pod~~ the pods are up.

if APP2 uses the service then when the node ~~gets broken~~ gets broken the traffic is redirected to a pod on another node

and everthing keeps working as before.

obs: can my workflow ↑ move freely between pod's of APP 1? Depends
generated by APP1 And ingested by APP1

on the type of workflow and how the app is written.

The Definition of a service : the nodePort.

service/nond_w_NP.YAML straight forward, ⚠ to the label selector!!

1st: the nodeport exposes a port to the outside would. and MAP IT to a "pod" set matching a label.

→ so is it Loadbalanced? *

Try: k describe svc nodeport ⚠ to the endpoints!

=> k describe endpoints svc-name (also: kubectl)

obs. services automatically create DNS names within your cluster!!

So your application can lookfor svc-name . namespace . svc . cluster.local

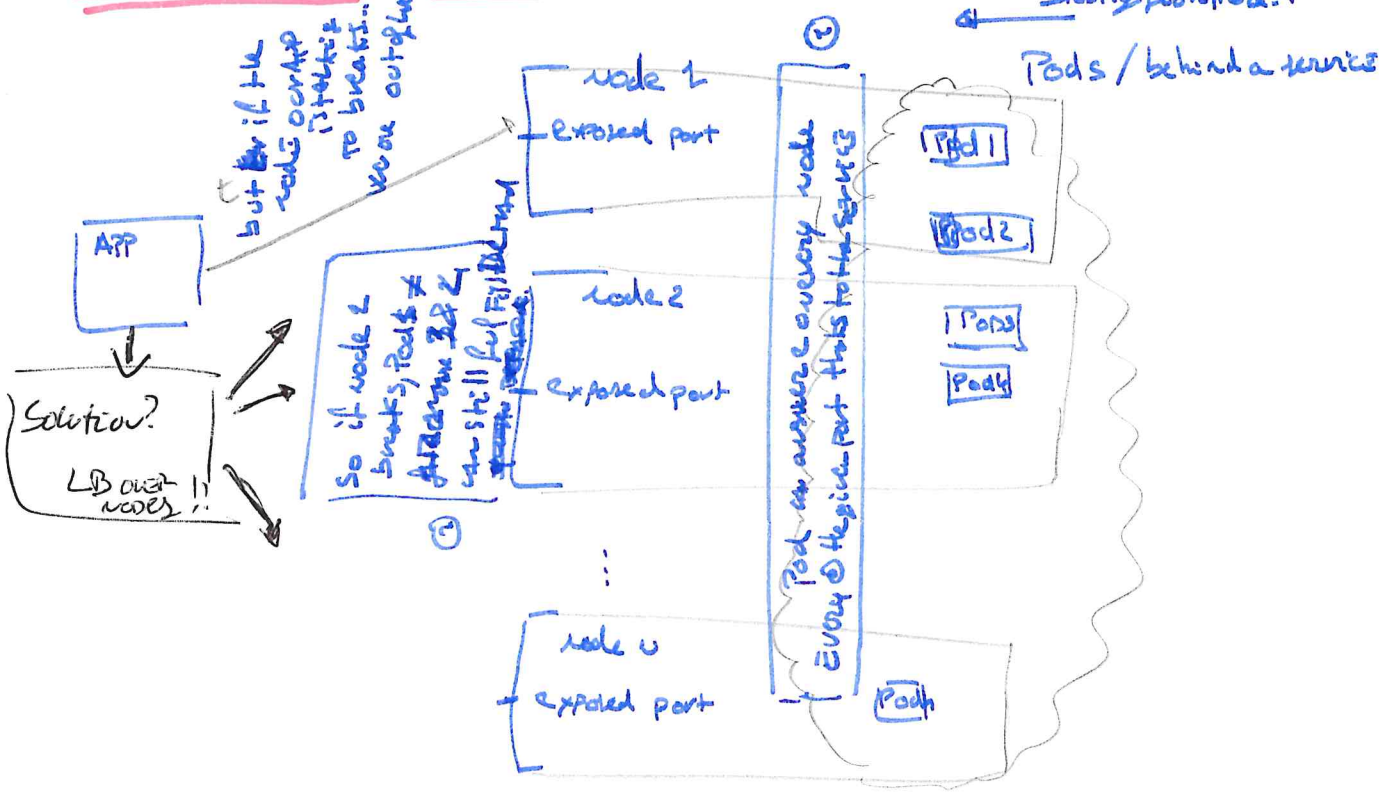
setup

test it from a busybox pod.

~~other services:~~

~~cluster IP: gives an IP to a set of pods with common labels and loadbalance the traffic~~

* So is it Loadbalanced? well not exactly



other services

cluster ip: Gives an ip to a set of pods w common labels, and perform LB

LB: is a real LB, Gives you An external ip that you can treat as a VM but has ∞ pods behind.
You NEED a provider!!! e.g. Google, Amazon .... or something Like Metal LB @ home.

External NAME: just for completeness, can used to override your internal DNS names. ⚠ to certificates.

Without a type: can map external services as if they were inside your cluster, provided that the network works!