

Demystifying the Nuts & Bolts of Kubernetes Architecture

Services101



Services



Imagine that, you have been asked to deploy web app

How does this frontend web app exposed to outside world?

How do front end app connected to backend database?

How do we resolve Pod IP changes, when they die?



Agenda

- Why do we need services?
- What is Service?
- Type of Services

Services

- An abstraction which defines a logical set of Pods and a policy by which to access them (sometimes this pattern is called a micro-service).
- Service acts as a layer above the pods. It is always aware of the pods that it manages: their count, their internal IP addresses, the ports they expose and so on.
- Service can be defined using a YAML or JSON file that contains the necessary definitions

Can We Use A Kubernetes Service Without Pods?

Yes!

- Access an API outside your cluster (examples: weather, stocks, currency rates).
- You have a service in another [Kubernetes](#) cluster that you need to contact.
- You need to shift some of your infrastructure components to Kubernetes. But, since you're still evaluating the technology, you need it to communicate with some backend applications that are still outside the cluster.
- You have another service in another [namespace](#) that you need to reach.

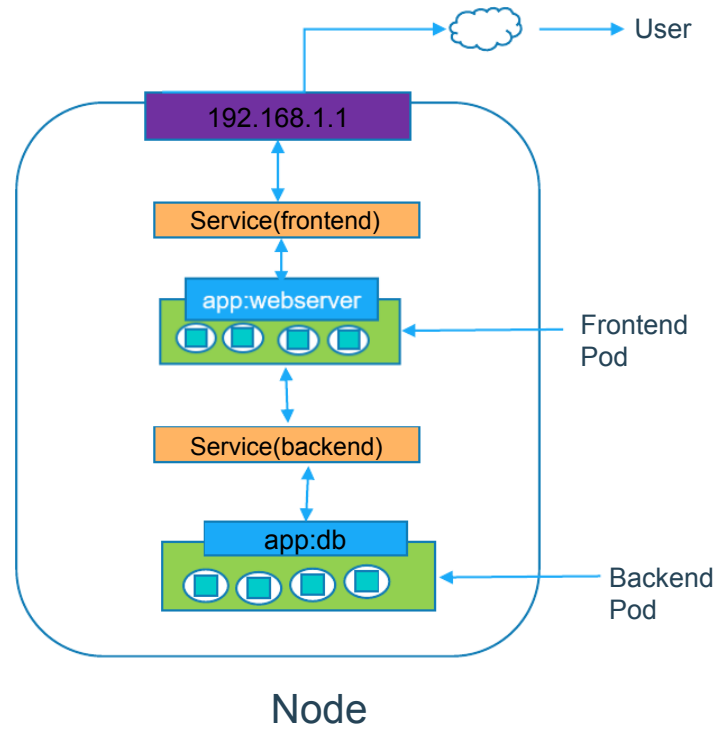
Services

Frontend Service:

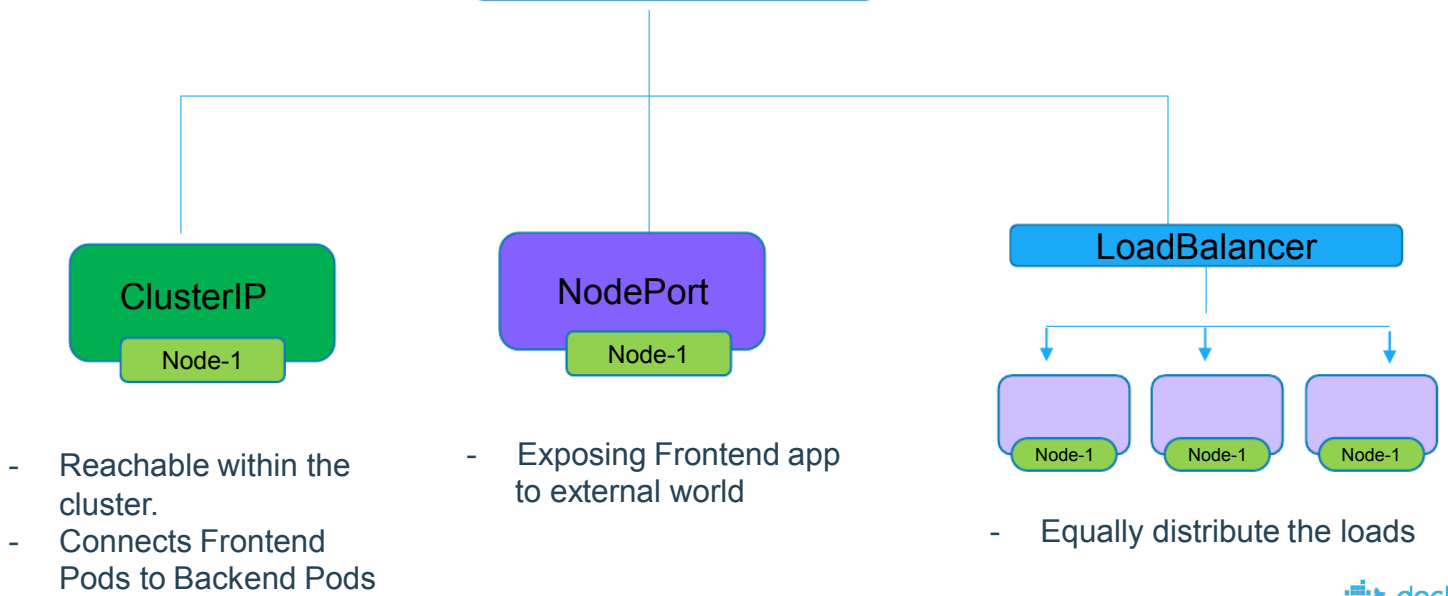
A Service which stays between user and frontend pod

Backend Service:

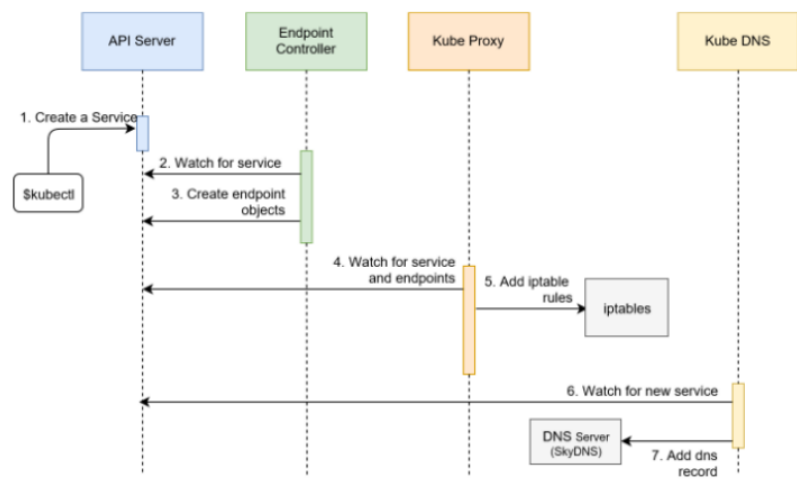
A Service which communicate between frontend Pod and backend end



Types of Services



A Typical Service WorkFlow

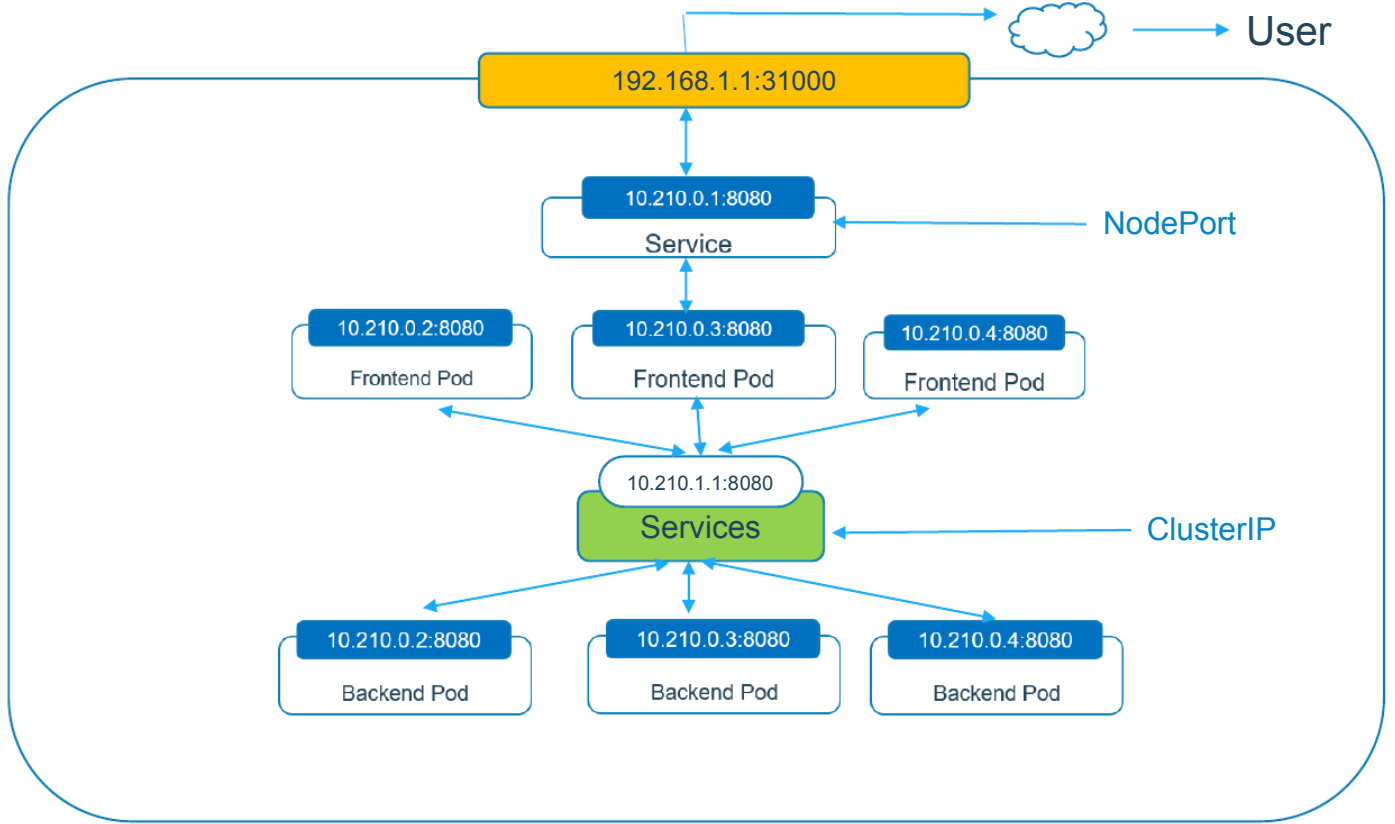


Services: ClusterIP



Services

- Imagine you need to deploy one full fledged app which consists of frontend app & backend app
- How can we restrict access of backend database to only within the kubernetes cluster?



Guestbook Demo

- Frontend Web app
- Backend DB - Redis

References

- <https://kubelabs.collabnix.com>

Thank You

