

ZSoil on Kube

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Bachelor's thesis short presentation



Context & Objective

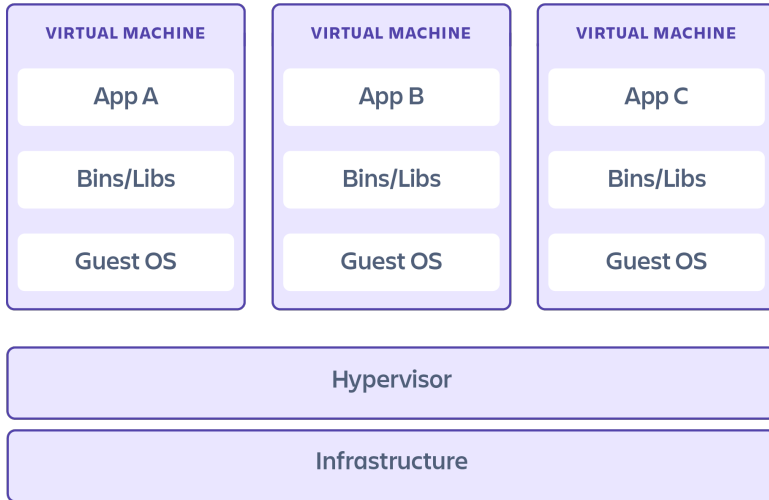


1. Work done during my bachelor's thesis at HEIA-FR (computer science)
2. Accelerate ZSoil by parallelizing jobs on multiples machines
3. Avoid slowing down the working machine
4. Usage of the *iCoSys* Kubernetes cluster

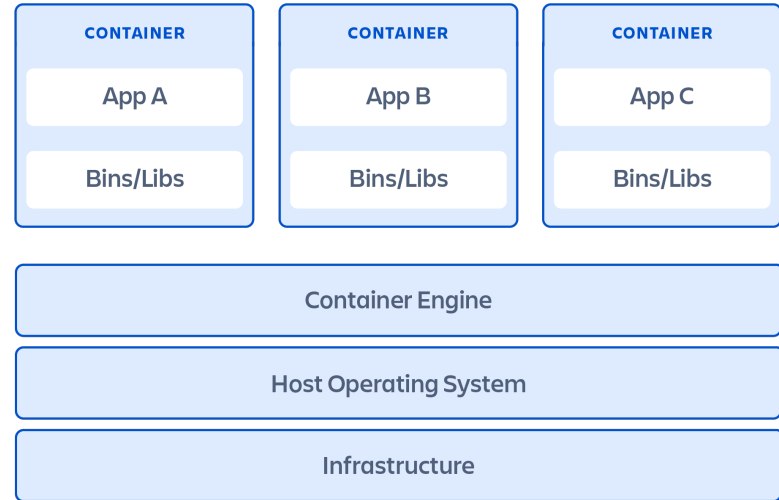


What is a container ?

Virtual machines



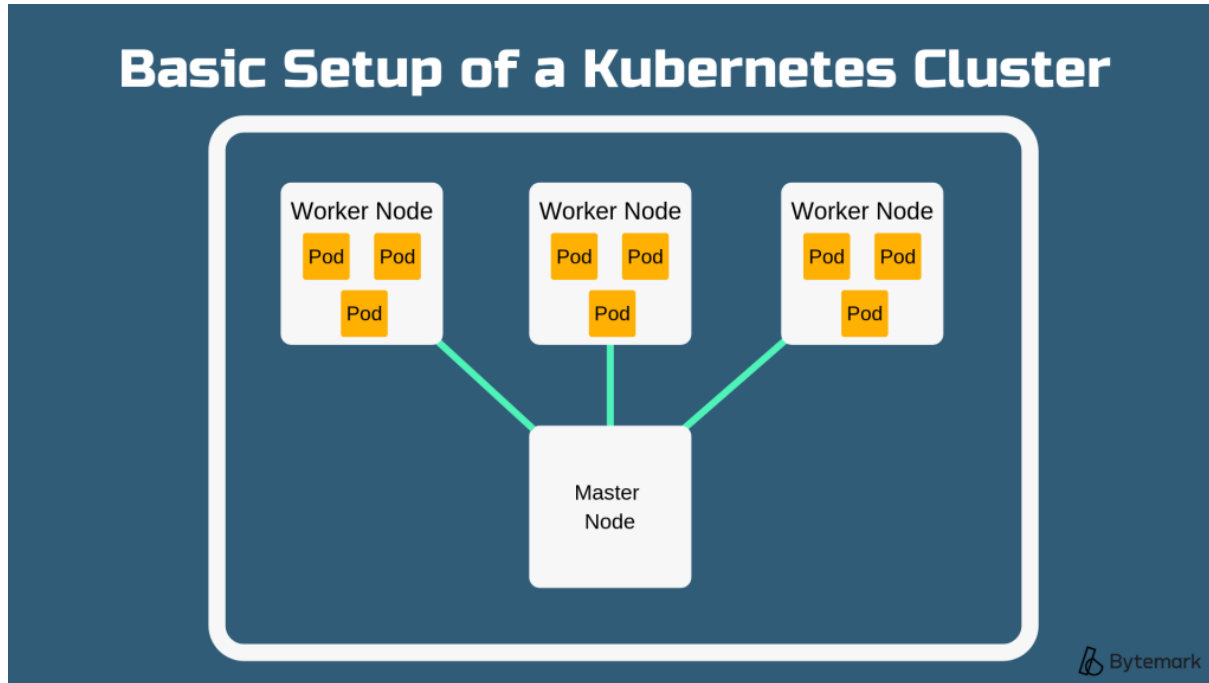
Containers



<https://www.atlassian.com/microservices/cloud-computing/containers-vs-vms>



What is Kubernetes ?



<https://docs.bytemark.co.uk/wp-content/uploads/2019/02/Basic-Setup-of-a-Kubernetes-Cluster-1024x576.png>

Running ZSoil

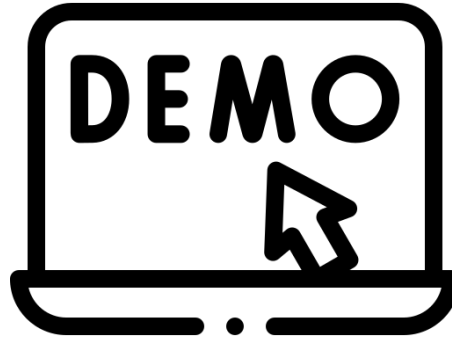


<https://ubuntu.com/>



<https://www.winehq.org/>

Quick Demo



Performances



1. Takes 10 to 15 % more time for a single .inp file
2. Maximum of 40 computations at the same time !

➔ ≈ 36 times faster than a sequential execution*



**Thank you for
your attention**

