Install Kubernetes on AWS with Terraform and Ansible

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Kubernetes

- Orchestrate containerised applications
- Private or public cloud environments
- Solves a problem generated by another solution: containerisation
- Offered as a managed service but can also be installed

Microsoft

amazon web services™

Google Cloud Platform

Containerisation

The process of taking an application and packaging it into a single runnable/executable software image

Containerising an application requires understanding its inputs, dependencies, configuration files, and outputs, and then baking all of these things into an immutable image

Containerisation primarily solves the problem of portability of applications between development environments and production environments

Kubernetes installation with...

- Terraform
- Terraform is a tool for building, changing, and versioning infrastructure safely and efficiently

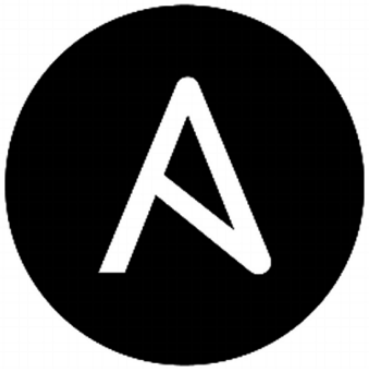
- Ansible
- used for IT tasks such as configuration management, application deployment, intraservice orchestration and provisioning

What we do with Terraform

Provision 2 EC2 instances in AWS (specific type, image, volumes)
Provision a VPC for the 2 instances
Provision a security group

What we do with Ansible

Configure Red Hat on EC2 instances for installing Kubernetes
Install docker, kubelet, kubeadm
Start services
Initialize Kubernetes Master
Join the second EC2 as a node



Prons/Cons of this project

- PRONS
- Acquire knowledge of Kubernetes internals
- Full control of setup (networks, security)
- Choices in logging and alerting mechanisms
- Infrastructure as a code

- CONS
- High Skill of cloud Platform, Terraform, Ansible
- Need of human recources

What’s next

- This infrastructure can be production grade. A lot of components can be added through code such as ingress controller, service mesh, logging, alerting, monitoring systems.
- All in the form of :
- Infrastructure as a Code.

Questions

Source: https://gitlab.com/stap7/kubernetes-aws

Blog: https://stamatisp.wordpress.com/