KIABI
la mode à petits prix

Riders on the Cloud

provisionner de l'infrastructure AWS à 9500 km de Lille pour Kiabi

Journée du cloud - 21/06/2019

Hi, I'm Julien

star wars 🌑& dragon ball 🌟n, 70's rock music lover 🎸

freelance solution & software architect 🏗

whale lover 🐳

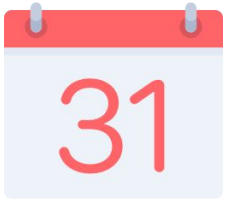
trainer & teacher 🎓 @ univ-lille

julien@codeka.io
juwit
julien.wittouck

This talk about a work in progress

But we already learned a lot

KIABI
la mode à petits prix



since 1978

~ 500 stores

€ 2 billion

20 million customers

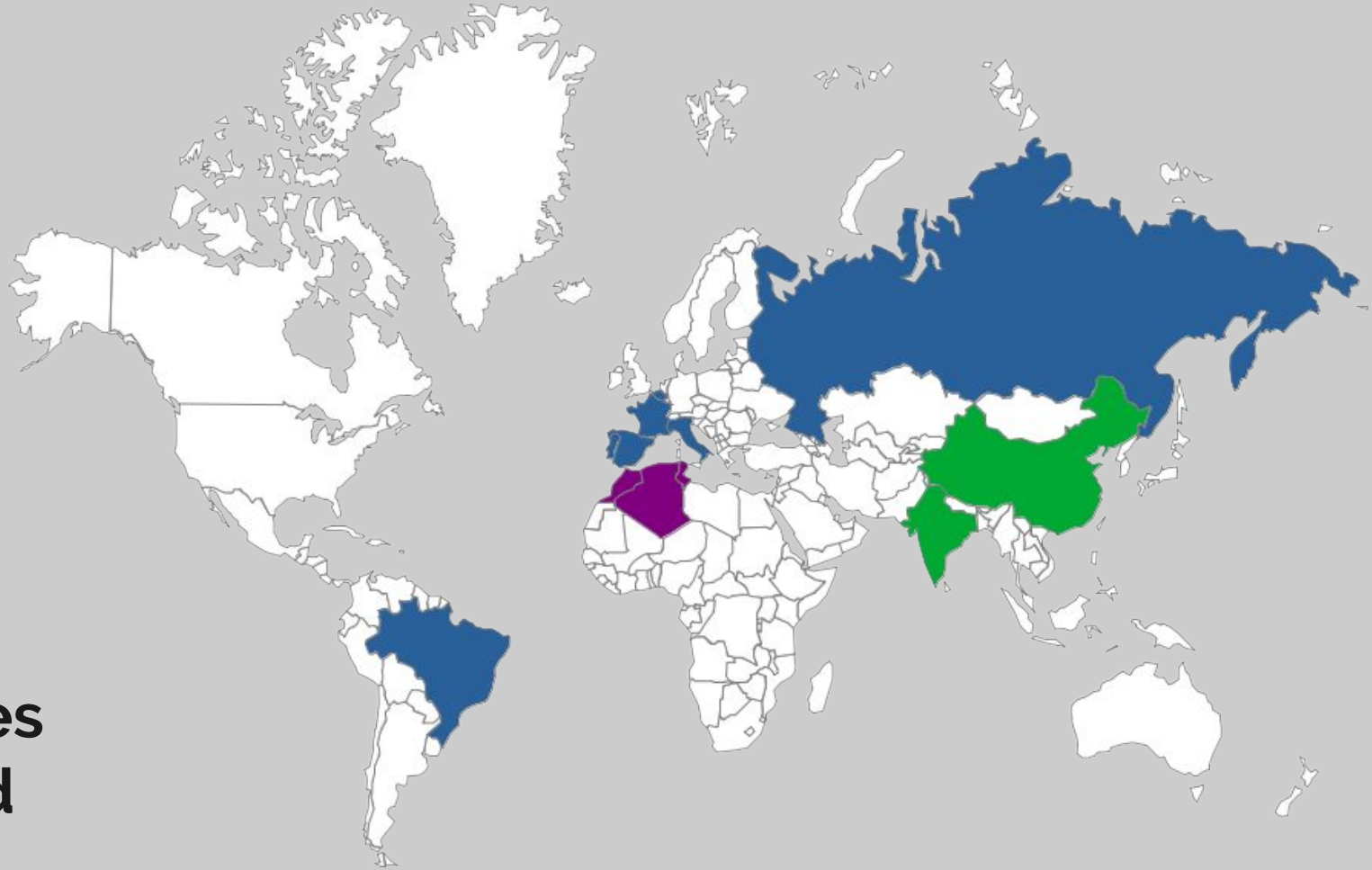
#2 France great place to work 2018

stores

suppliers

franchises

Kiabi rules the world



Hi, I’m Ken

I work for Kiabi IT Hong-Kong

I develop apps for Kiabi suppliers

Those apps are mainly used in China and India

(I’m a real person)

Apps, APIs & Databases are deployed in Kiabi european data-centers (Lille area)

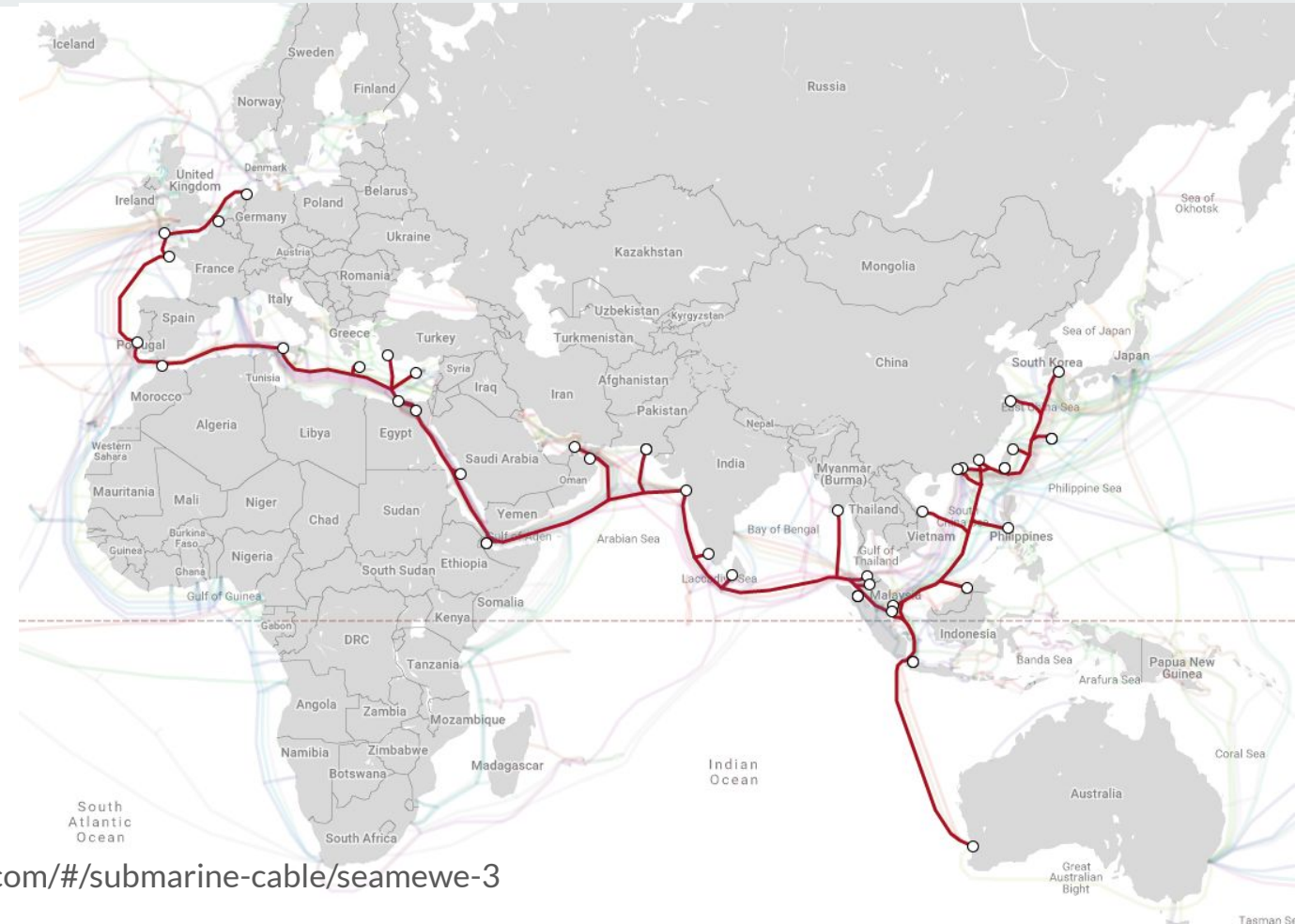
No on-premise infrastructure for Kiabi IT Hong-Kong

Provisionning infrastructure for Ken takes weeks :

- ticket-based workflow
- different teams involved
- it’s 10PM at HK right now

This is probably the real path Ken's IP packets take

(this cable is 36000 km long)



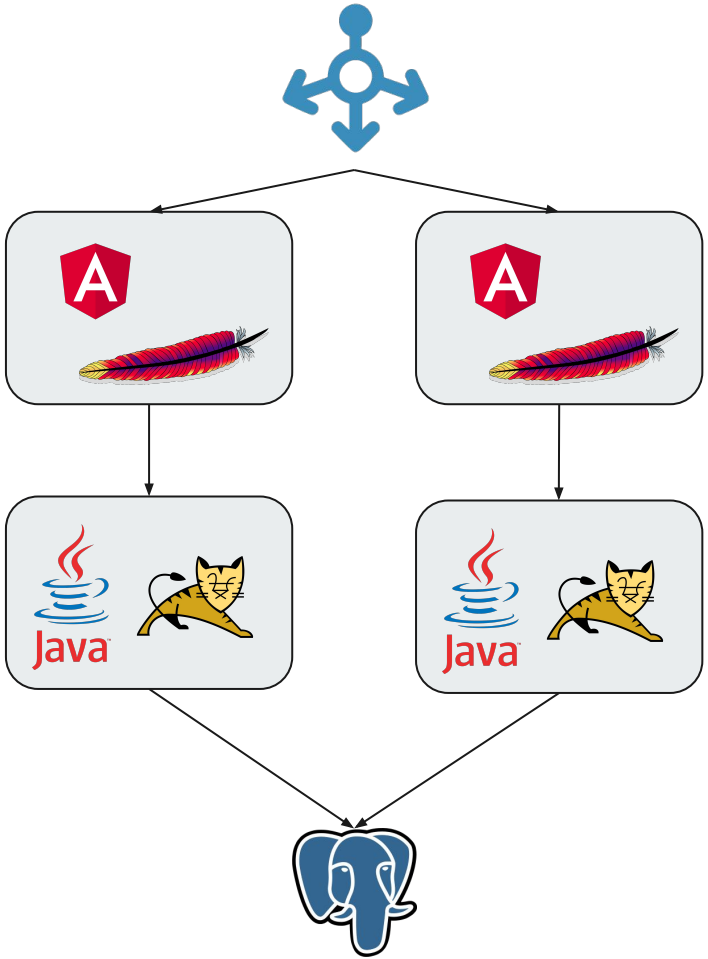
https://www.submarinecablemap.com/#/submarine-cable/seamewe-3

Kiabi computers

let's just use someone's else computer,
as close as possible to Ken and his users

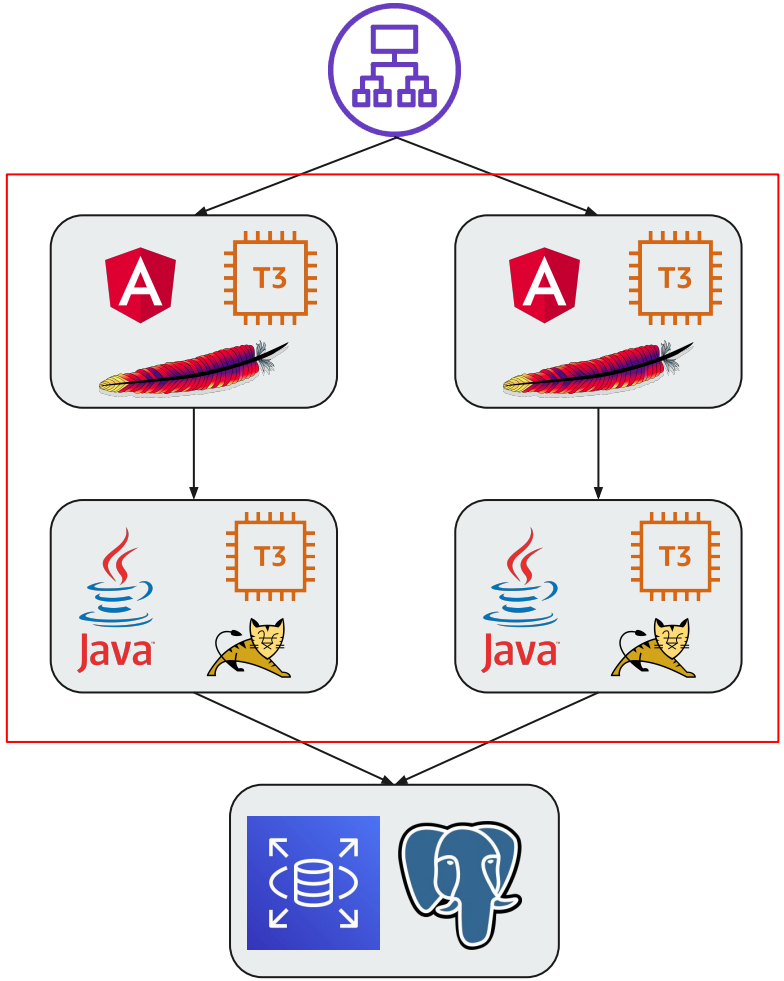
Kiabi standard stack

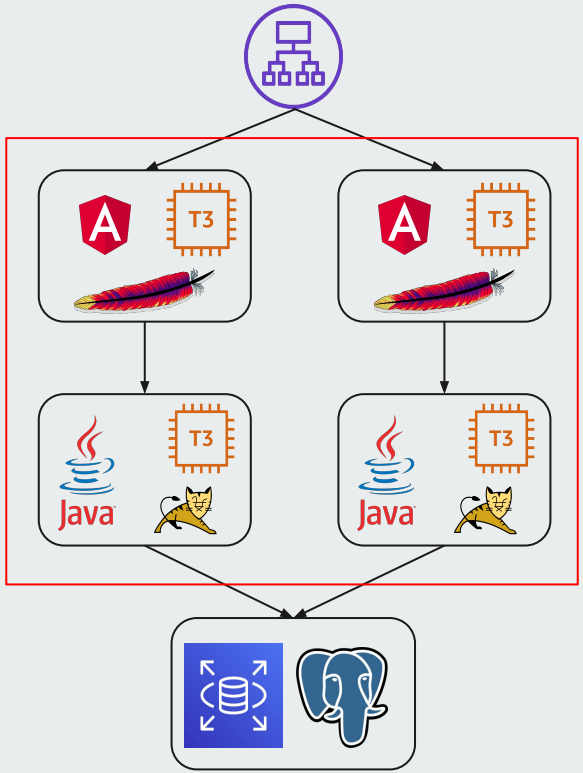
on-premise apps



Kiabi standard stack

Let’s cloudify it !
We’re using AWS





EC2 AMIs

EC2 instances

Application load balancers

RDS instance

Route53 records

Security Groups

VPCs & Subnets

...

How to automate it ?

Maybe using infrastructure-as-code (I like writing code) but :

- we don’t want vendor lock-in (bye bye AWS CloudFormation 👋)
- we want to build infrastructure for Ken, but also maybe for other users
- maybe for on-premise infrastructure too
- we want reproducibility and minimal manual operations

Hashicorp's suite

HashiCorp
Packer

build our VM images

HashiCorp
Terraform

provision our infrastructure

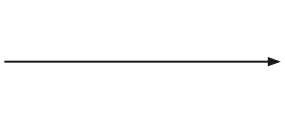
Building our VM images

“Packer is a tool for creating identical machine images for multiple platforms from a single source configuration”

https://github.com/hashicorp/packer

How packer works

json
configuration



CLI

AWS

GCP

Azure

build
configuration

assets

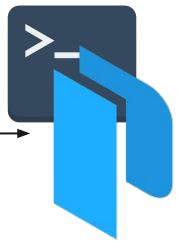
provisionners

packer build

dev

packer scripts
& assets

gitlab-ci



packer
validate & build

amazon AMIs
distributed across regions

passed **Pipeline #26926** triggered 1 month ago

✨ : add ssl module for https proxy

4 jobs from `master` in 13 minutes and 9 seconds (queued for 1 second)

97e58ac2

Pipeline Jobs 4

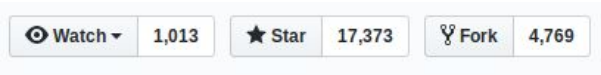
packer benefits

- VM configuration is in VCS - everyone can view it and submit changes
- Tagging and versioning our VM images ! Better technical debt mgmt !
- VM builds are reproducible
- VM can be built on multiple cloud providers (even if we only use AWS now)
- Simpler to build newer versions, or new VM types

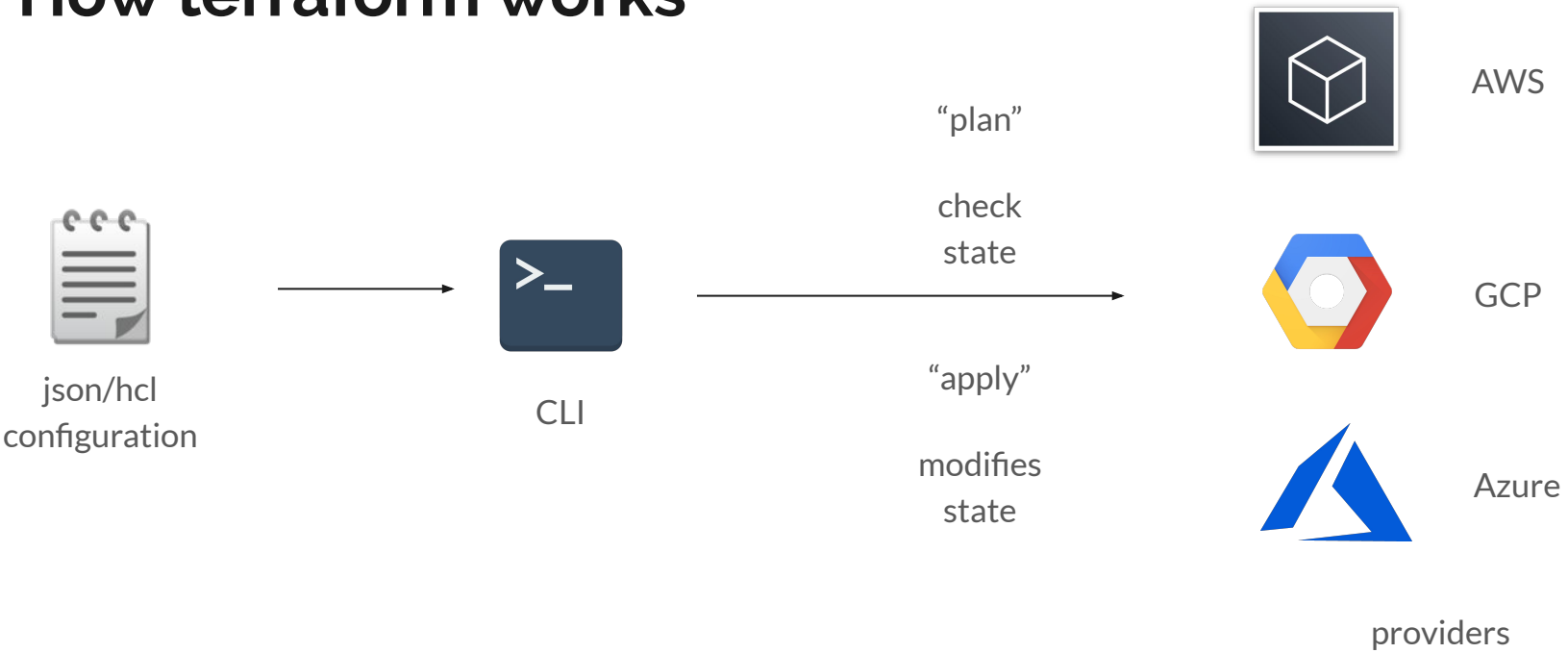
Building our infrastructure

“Terraform is an open source tool that codifies APIs into declarative configuration files that can be shared amongst team members, treated as code, edited, reviewed, and versioned”

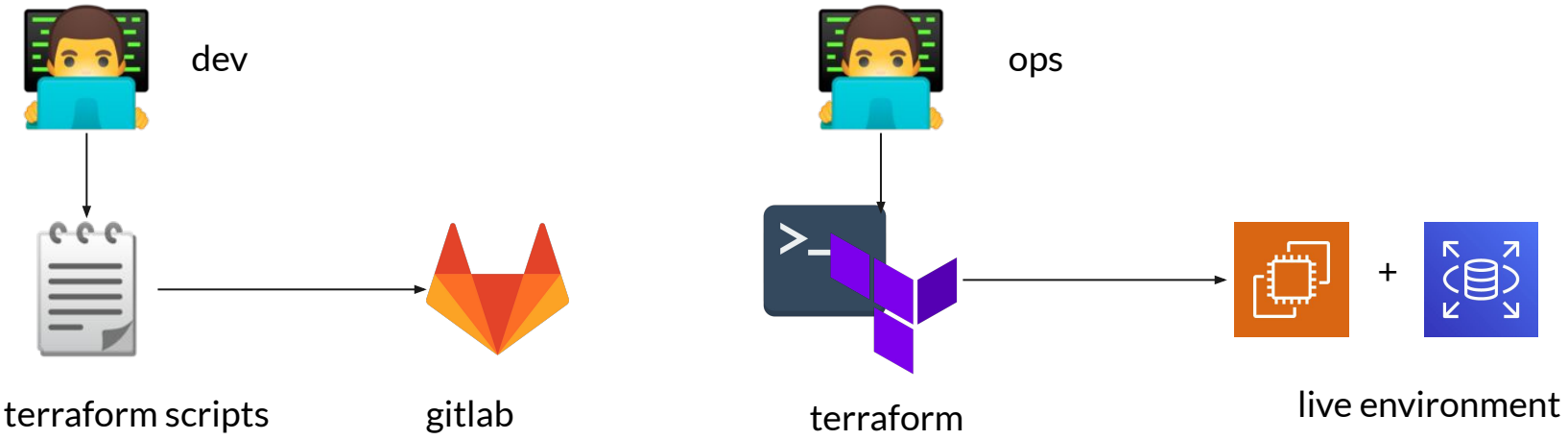
https://github.com/hashicorp/terraform



How terraform works



terraform simple workflow



terraform benefits

- infrastructure definition is now in VCS (no better way to document an architecture)
- infrastructure now takes a few minutes (3 to 5 minutes) to be provisionned
- it's fully automated, reproducible
- no more human-related mistakes
- infrastructure refactoring ! build reusable modules

Ken’s journey to the cloud

I now have infrastructure near me !

Low latency

Fully managed infrastructure

production-ready

Towards self-service infrastructure for all

terraform
modules

✅ module configuration & variabilization (size & environment)

✅ cost mgmt (using AWS tags)

🚧 self-service via a simple hand-crafted GUI

🚧 disposable environments

Modules for everything !

terraform
modules

✅ our Angular/Java/PostgreSQL servers stack

🚧 database as a service

🚧 “devops” tooling - nexus proxy - rundeck server

Ken’s journey to the cloud never ends

I like whales !

- replace VMs by containers
- orchestrate them
- on cloud near Ken
- use different cloud providers

Thank you !

(This was my first talk !)

Raise your hands for questions !