Automate all the things

AWS with Ansible

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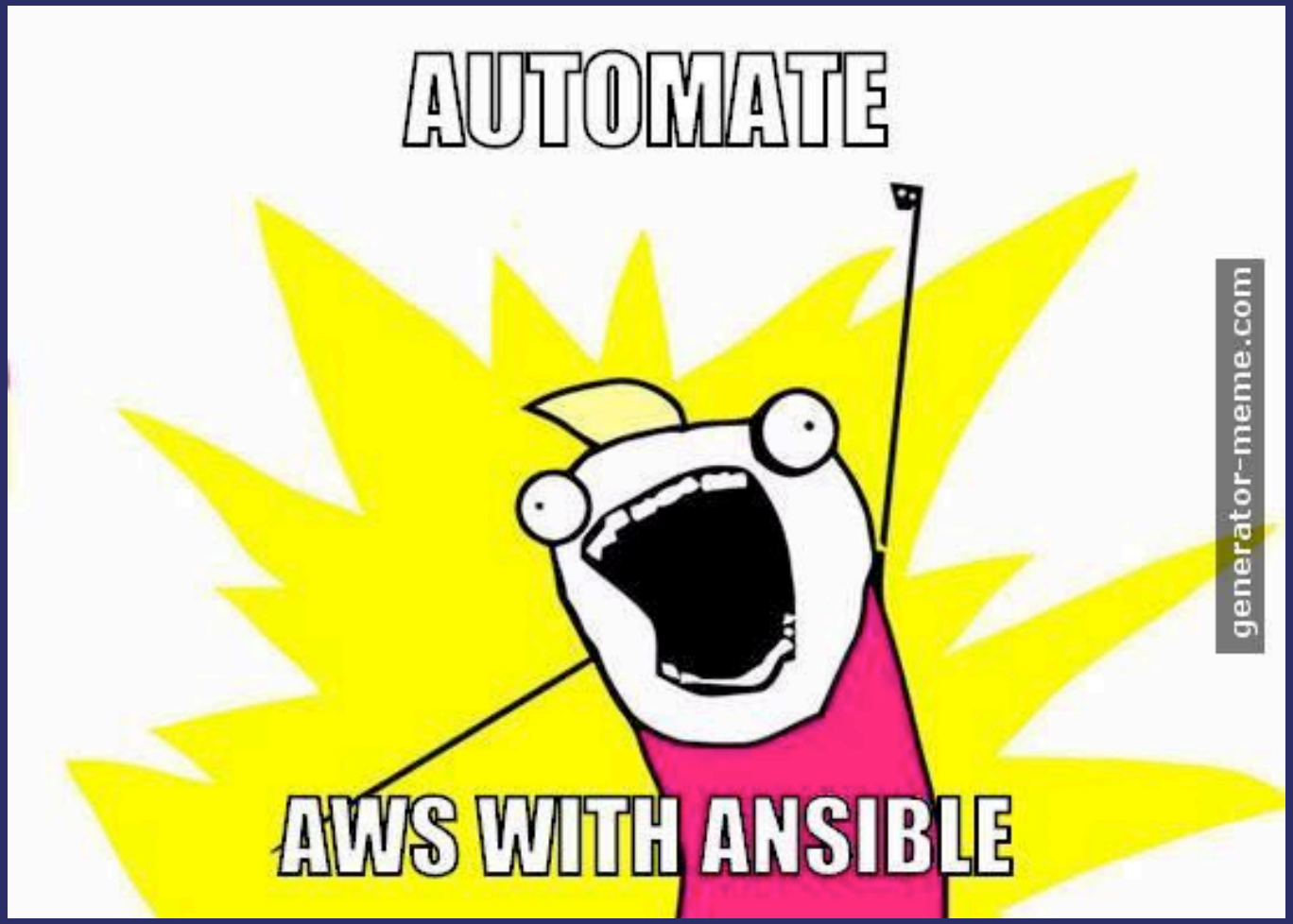


elastic


elastic


elastic


Eurovision
elastic

elastic

Infrastructure | Developer Advocate

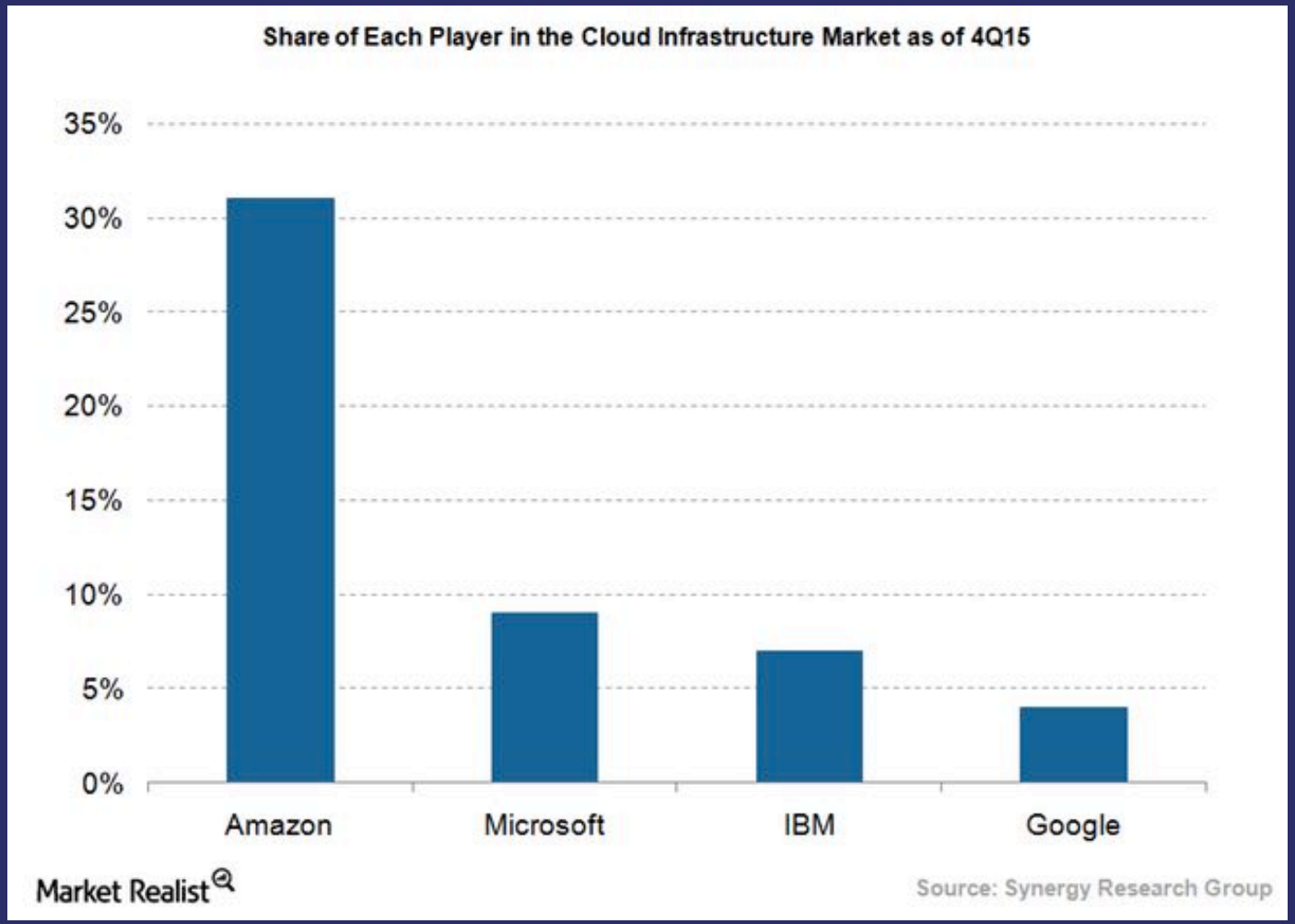
Agenda

AWS & Ansible basics

AWS & Ansible in action

While we're getting started

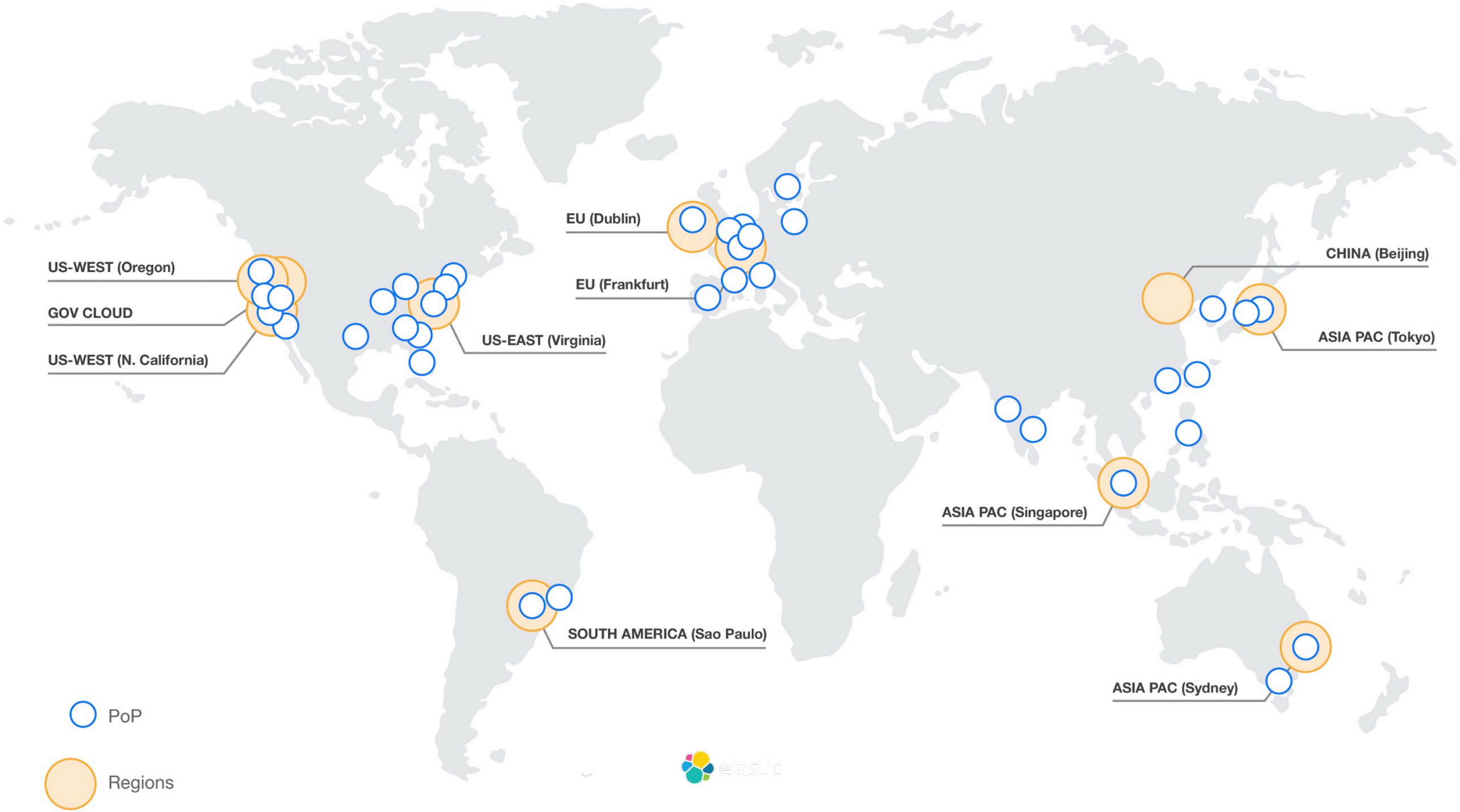
USB Stick

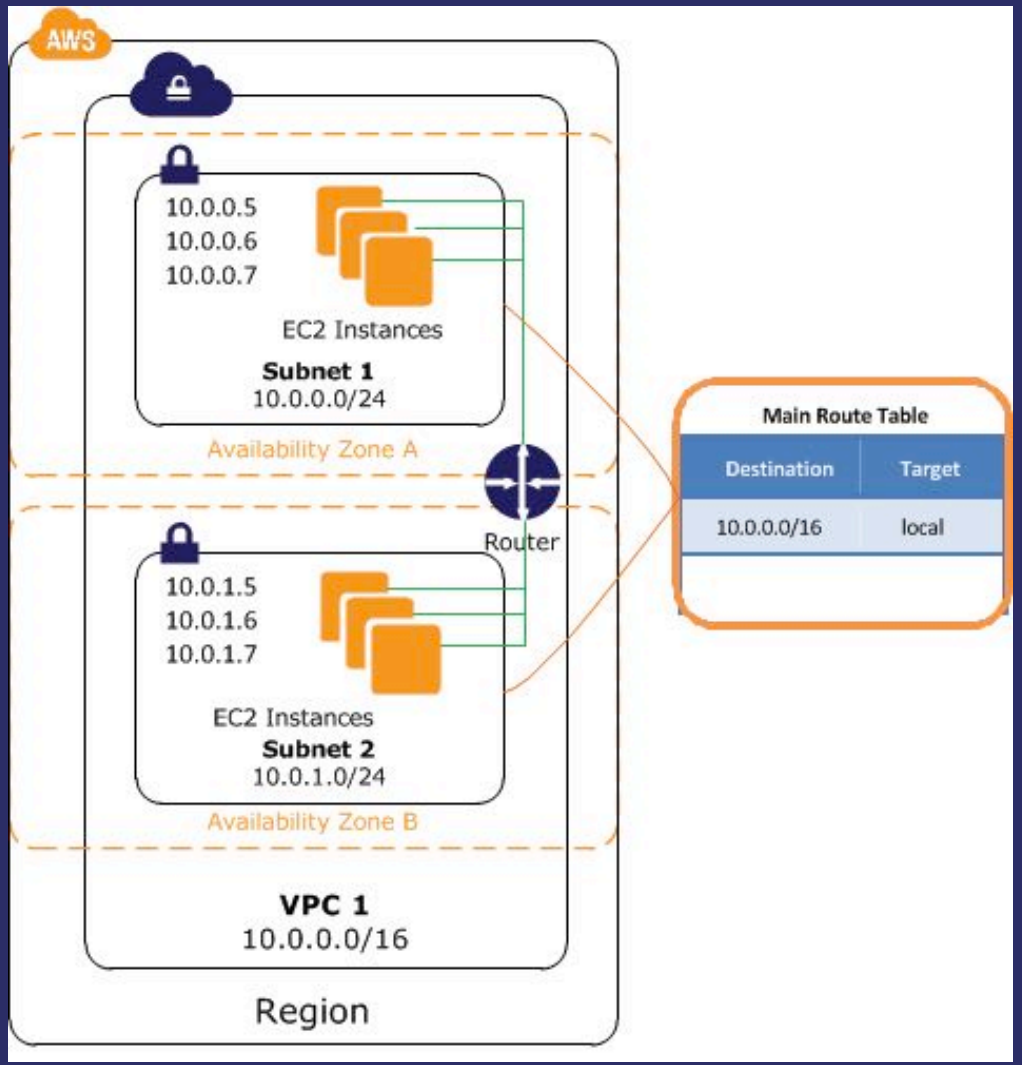

Share of Each Player in the Cloud Infrastructure Market as of 4Q15
35%
30%
25%
20%
15%
10%
5%
0%
Amazon
Microsoft
IBM
Google
Market Realist
Source: Synergy Research Group

elastic

AWS

elastic


US-WEST (Oregon)
GOV CLOUD
US-WEST (N. California)
US-EAST (Virginia)
EU (Dublin)
EU (Frankfurt)
CHINA (Beijing)
ASIA PAC (Tokyo)
ASIA PAC (Singapore)
SOUTH AMERICA (Sao Paulo)
ASIA PAC (Sydney)
PoP
Regions


AWS
10.0.0.5
10.0.0.6
10.0.0.7
EC2 Instances
Subnet 1
10.0.0.0/24
Availability Zone A
Router
10.0.1.5
10.0.1.6
10.0.1.7
EC2 Instances
Subnet 2
10.0.1.0/24
Availability Zone B
VPC 1
10.0.0.0/16
Region
Main Route Table
Destination
Target
10.0.0.0/16
local

elastic

Once upon a time

Handcrafting

elastic

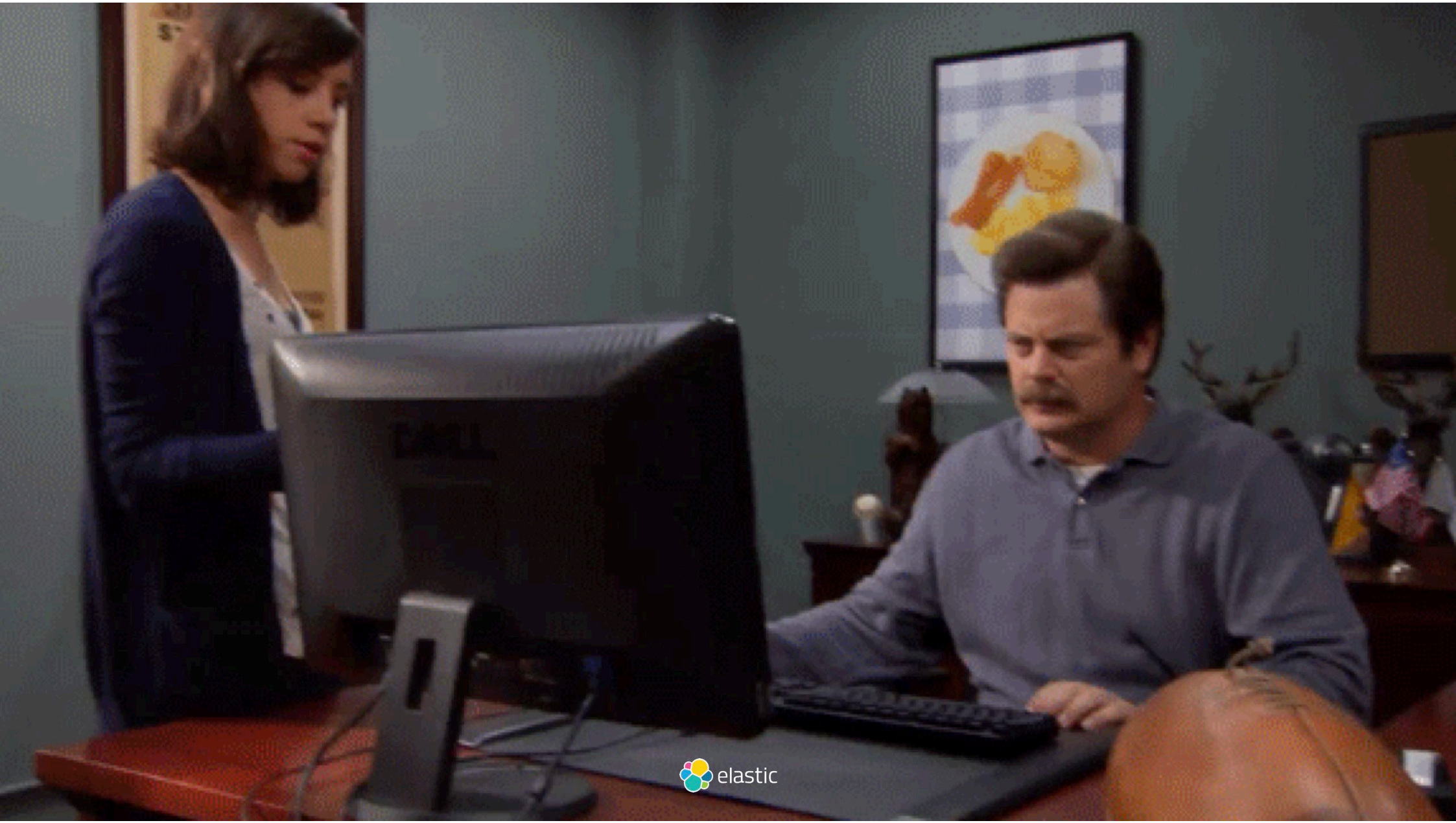
It worked

sort of...

Root Login

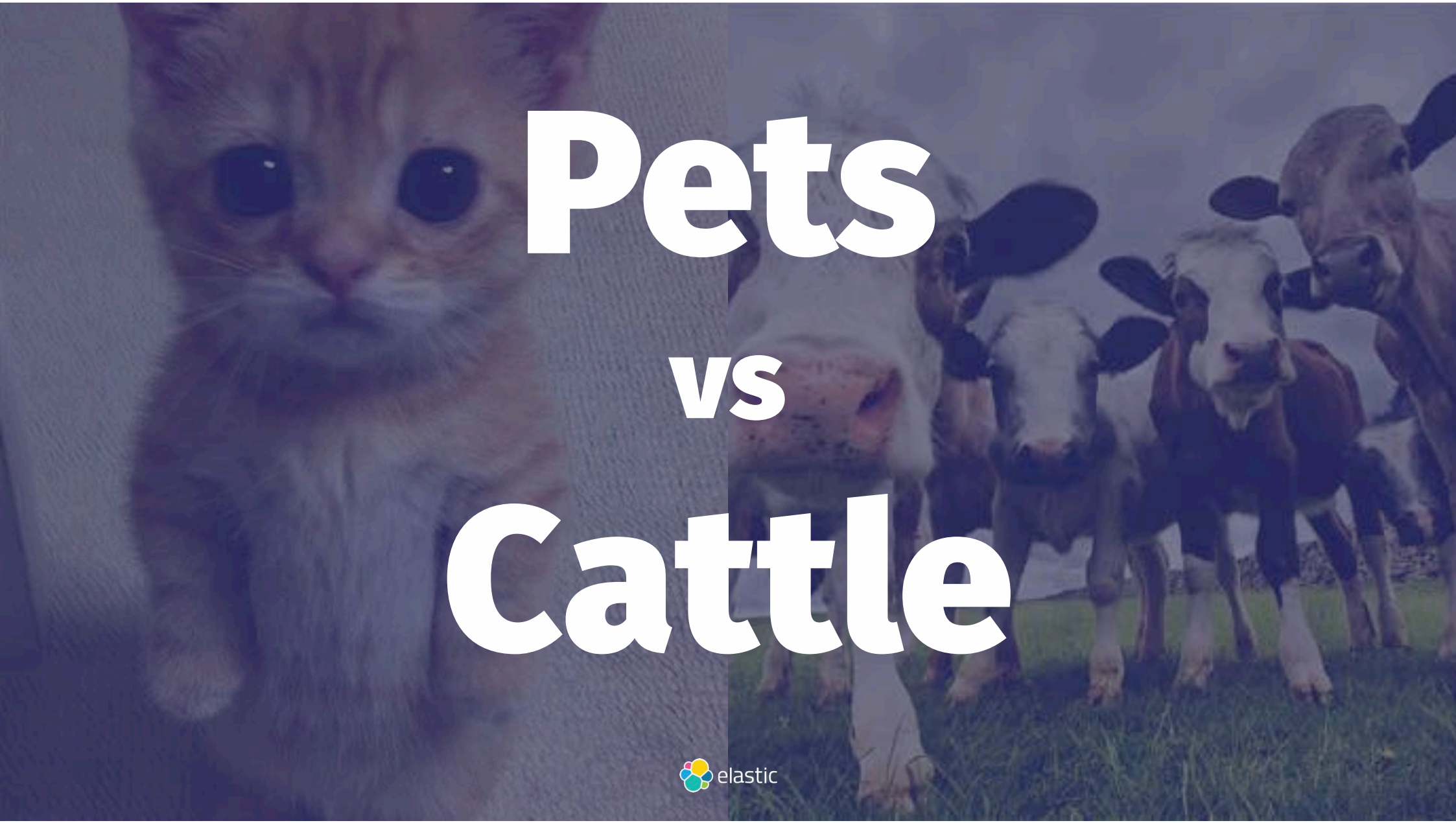
https://console.aws.amazon.com

Demo


elastic

Doing it right

elastic


Pets
vs
Cattle
elastic

AWS

AWS CloudFormation

Terraform

http://charity.wtf/2016/02/23/two-weeks-with-terraform/

System

Chef, Puppet, Ansible, Saltstack,...

One tool

elastic

Ansible

Inventory

Playbook

Role

Boto

USB stick

VirtualBox

Box

elastic

VirtualBox

Windows, Mac: USB stick

Linux

https://www.virtualbox.org/wiki/Linux_Downloads

Box

Vagrant Ansible Provisioner

But how?

Vagrant

Ansible Provisioner

Credentials

vagrant

vagrant

SSH

```
$ ssh vagrant@127.0.0.1 -p 2222 -o
PreferredAuthentications=password
```

Test

```
$ ansible --version
```

Create a VPC in Frankfurt

playbooks/0_vpc-create.yml

inventory

group_vars/all.yml

Change

In *group_vars/all.yml* `myname`

Run the playbook

```
$ ansible-playbook playbooks/0_vpc-create.yml
```

If it fails

Check your firewall
Check your time

Security Groups

playbooks/1_security-groups.yml

Run the playbook

```
$ ansible-playbook playbooks/1_security-groups.yml
```

Create a Key Pair

playbooks/2_generate-key.yml

Run the playbook

```
$ ansible-playbook playbooks/2_generate-key.yml
```

Create an instance

playbooks/3_instance-create.yml and role

Run the playbook

```
$ ansible-playbook playbooks/3_instance-
create.yml
```

Find the `dns_name` in the output

Something like `ec2-52-29-131-72.eu-central-1.compute.amazonaws.com`

SSH into the instance

```
ssh ubuntu@ec2-52-29-131-72.eu-central-1.compute.amazonaws.com -i ~/.ssh/id_rsa
```

SSH into the instance

```
$ ssh ec2-52-29-131-72.eu-central-1.compute.amazonaws.com -F ssh.config
```

Change the DNS in your *inventory* file

```
[first]
ec2-52-29-131-72.eu-central-1.compute.amazonaws.com
```

Provision your instance

playbooks/4_instance-configure.yml

Run the playbook

```
$ ansible-playbook playbooks/4_instance-configure.yml
```

Access the instance

ec2-52-29-131-72.eu-central-1.compute.amazonaws.com

Ansible-Vault

```
$ ansible-vault
```

Check & Lint

check-playbook.sh

https://cloudcraft.co


Lambda
Memory (MB)
128
M req. / month
10
Seconds / req.
0.5
$5.55 / mo
S3://imageUploads
EC2 Web Servers
M3
M3
Trigger
ELB
Amazon
Lambda
Using ImageMagick:
1. Convert format
2. Resize
3. Watermark
S3://processedImages
Upload image
over HTTPS
Download processed
images from CDN
Amazon
CloudFront

elastic

Conclusion

AWS & Ansible basics

AWS & Ansible in action

Thanks!

Questions?

@xeraa