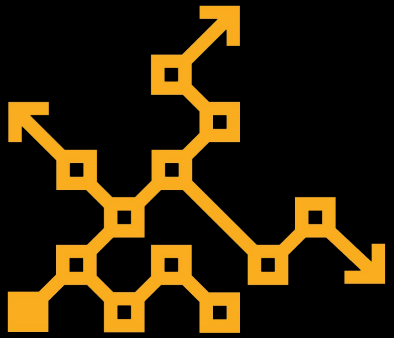
puppetconf
2017

Test Driving Your Infrastructure



Who Are We?

Jesus Alvarez

Systems Engineer

@jeezusalvarez

github.com/demizer

Jessie Puls

Systems Engineer

@jessiepuls

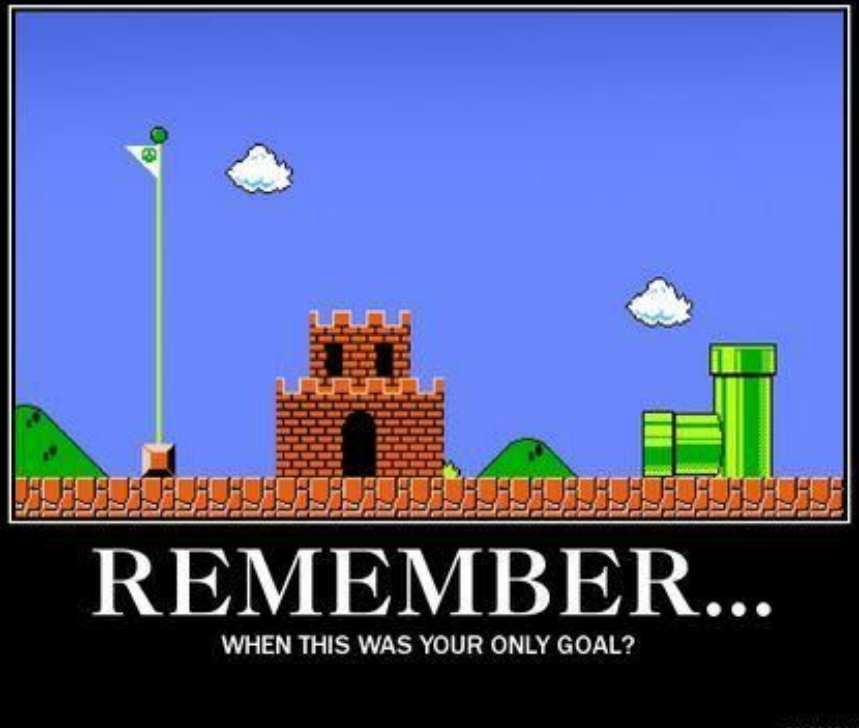
github.com/jessiepuls

Migrating a 15 year old infrastructure to the cloud

Infrastructure as code

Testing Everything

What's been successful (and probably a little about what hasn't)



Goals

- Modernize & replace aging infrastructure
- Improve application & server deployments
- Improve stability and flexibility of our application
- Remove Knowledge Silos

What Problems Exist?

Manual Changes

Everything is Always Broken

Everything Takes Too Long

Silos of Knowledge

HashiCorp
Terraform

KitchenCI

Tools

CHORIA

SERVERSPEC

RSpec

puppet

How We Create Environments

Terraform to define infrastructure & manage state

Puppet to manage configuration

Abstract the differences

Write tests to prove it

How We Migrate Between Environments

Environments are defined by git branches

With that environment's configuration

And tests

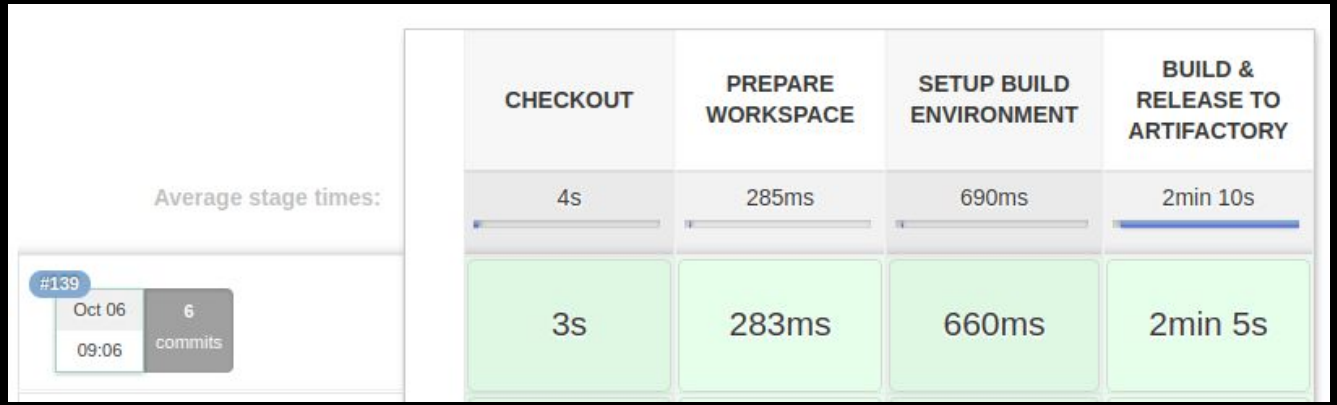
How We Deploy

Automation using Jenkins pipelines & DSL Plugin

Orchestration using Choria playbooks

Custom mcollective agents

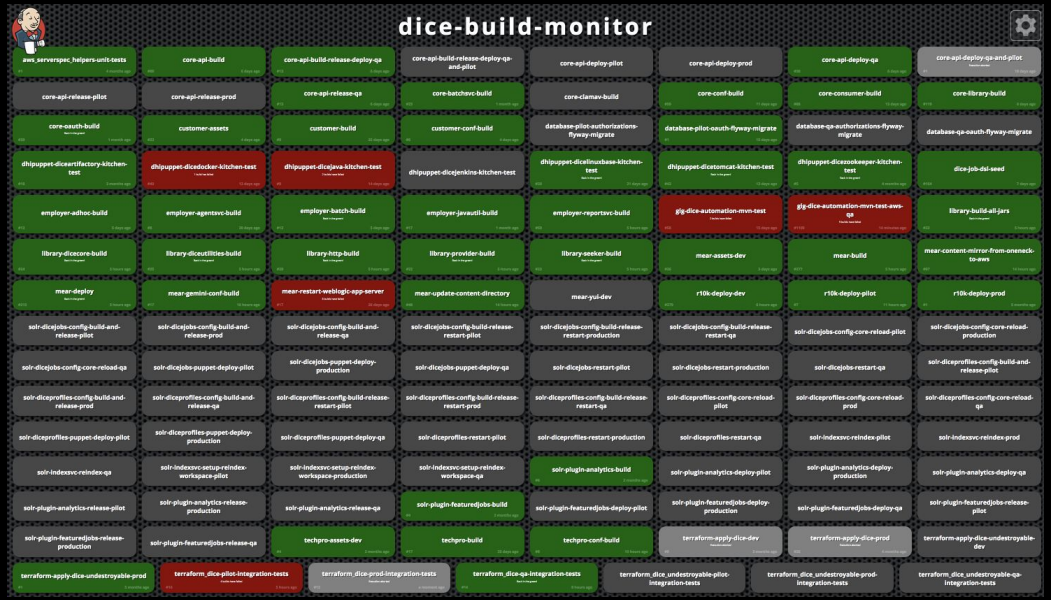
Continuous Integration & Automation



	CHECKOUT	PREPARE WORKSPACE	SETUP BUILD ENVIRONMENT	BUILD & RELEASE TO ARTIFACTORY
Average stage times:	4s	285ms	690ms	2min 10s
#139 Oct 06 09:06 — 6 commits	3s	283ms	660ms	2min 5s

Make It Visible

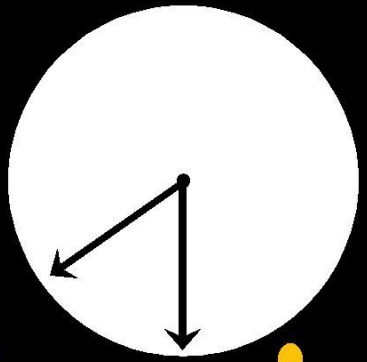
All of this is reflected on our build monitor which is visible to anyone in our team space



What Lessons Have We Learned?

Get Everyone Involved Early

Early is on time.

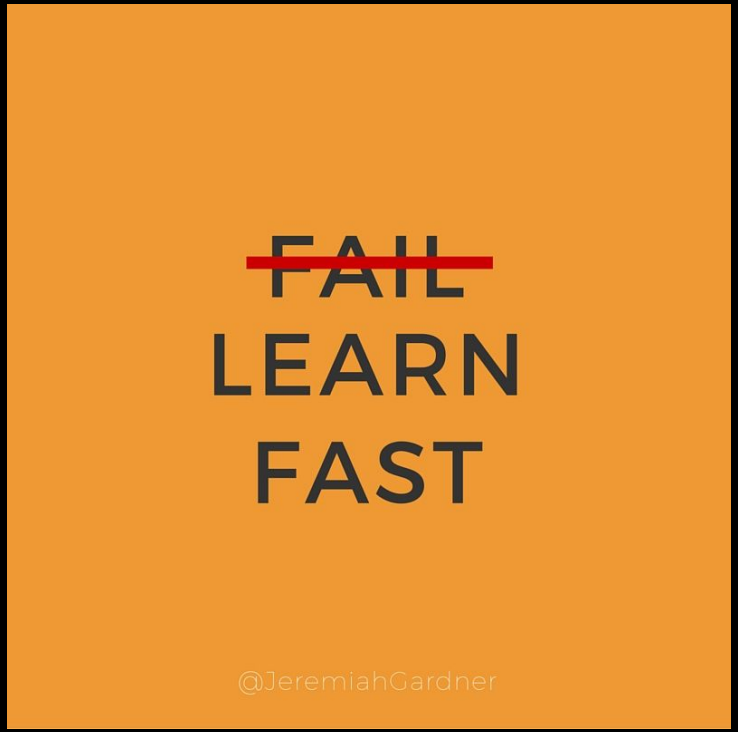


On time is late.

Choose the Right Team

Be Flexible

Discover Problems Quickly



Automation is Reproducible

Questions?

Examples and slides:

https://github.com/J-And-J-Productions/2017-puppetconf

Feel free to contact us:

@jessiepuls @jeezusalvarez