

Bronco

Managing Terraform at Scale with Airflow



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Agenda

Cloud Computing & Terraform

Platform Engineering

Airflow? ... Airflow!

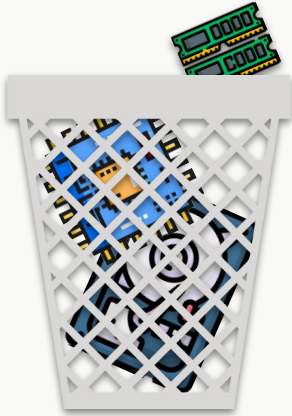
Bronco

Reduce, Reuse, Recycle



Cloud Computing

Nowadays software companies rent their silicon from public cloud providers



Companies automate these rentals with Infrastructure as Code (IaC) tools

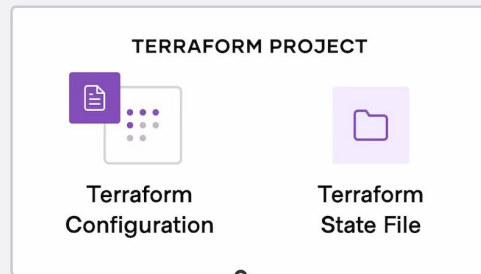


Terraform



Write

Define infrastructure in configuration files



main.tf > ...

```
1  ∨ resource "aws_s3_bucket" "example" {
2    bucket = "my-tf-test-bucket"
3
4  ∨  tags = {
5    Name       = "My bucket"
6    Environment = "Dev"
7  }
8 }
```



1000+ PROVIDERS

Platform Engineering

Platform teams are one approach to abstract cloud computing

Products



- Compute
- Build & Deploy Pipelines
- Databases
- Content Delivery Networks
- Secrets
- Object & Artifact Storage

Services



- Security
- Monitoring
- Scalability
- Availability
- Permissions
- **Maintenance**

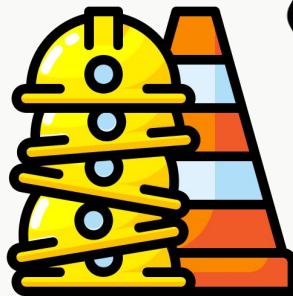
Airflow?

Maintenance is the single biggest limiting factor for a platform team...

- Seems to grow nonlinearly
- Often tedious and *almost* repetitive
- Must be performed with a high degree of confidence
- Must be performed as quickly as possible at scale

It can limit...

- Team velocity
- Product scope
- Platform effectiveness





Case Study: The Orange Team

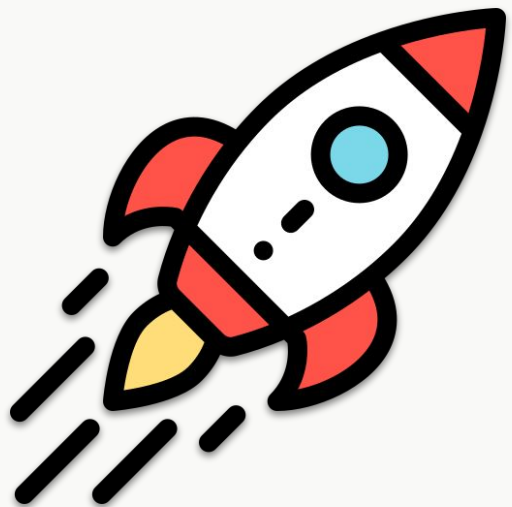
- A successful enterprise platform team offers a self service website
 - Kubernetes deployments
 - Load balancers
 - Databases
 - etc.
- Terraform behind the scenes
- Grow to support over 1,500 Terraform deployments across a dozen teams
- *Terraform version 0.11* - Released November 16, **2017**
- Static code analysis for cloud vulnerabilities requires 1.0

Airflow!

A platform team needs a configurable and scalable automation tool that can handle thousands of administrative tasks.

A job scheduler on steroids:

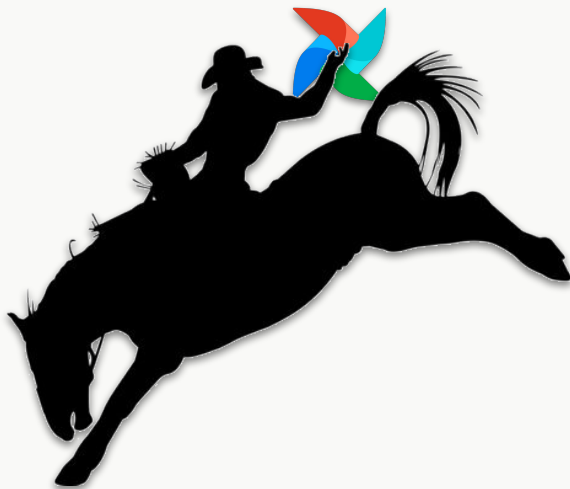
- Schedule, run and monitor workflows
- Orchestrate dependencies
- Visualize pipelines, dependencies & progress
- Comprehensive logs
- Operate at enormous scale



Bronco

Bronco is a **task and workflow codebase**, built on **Airflow**, designed to automate the administrative duties of a platform team.

Bronco enables platform teams to far exceed previous limits on their scale and development velocity.

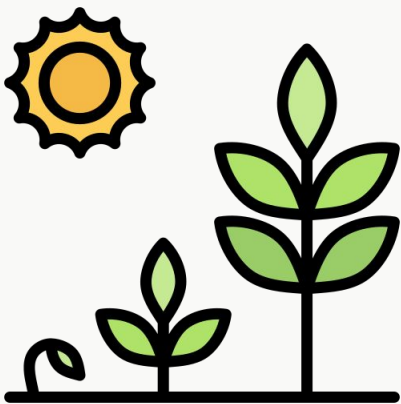


Reduce, Reuse, Recycle

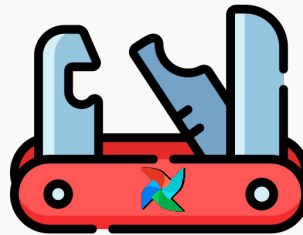
Bronco's task codebase **grows over time**.

Maintenance grows nonlinearly, but so can tools.

Bronco helps **even the arms race** between platform teams and maintenance.



Summary



Airflow is more than a data tool



Investments in Airflow pay dividends

Questions?



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Scan me to read more!

