

ADDO

ALL DAY DEVOPS

NOVEMBER 6, 2019

Mae Anne Large & Russ Parmer

GitOps FTW



AGENDA

- What is GitOps?
- State Farm® momentum
- Before GitOps
- Production release must haves
- CI/CD workflows with GitOps



WHAT IS GITOPS?

- Term coined by Weaveworks - <https://www.weave.works/technologies/gitops/>
- Uses Git as a single source of truth for declarative infrastructure and applications
- As Weaveworks put it, GitOps can be summarized as these two things:
 - An operating model for Kubernetes and other cloud native technologies, providing a set of best practices that unify deployment, management and monitoring for containerized clusters and applications.
 - A path towards a developer experience for managing applications; where end-to-end CI/CD pipelines and git workflows are applied to both operations, and development.



STATE FARM® MOMENTUM

- CI/CD
- Git
- Product Teams
- IaC



BEFORE GITOPS

- Pipelines on different pipes
- Mixed bag - open source and proprietary
- Legacy solutions.... sleeps, retries, waiting... bandaid(s)



PRODUCTION RELEASE MUST HAVES

- no single human can make untracked production changes without oversight and change management tracking
- evidence of the validation that was done
- deployable immutability



BASIC SETUP

Code Repo

- All source code
- Full access
 - Dev teams
 - Contributors

Config Repo

- Only files needed to implement change
 - yaml
 - tf
 - properties
- Limited access
 - Managers
 - Dev leads
 - Auditors
- NO ONE HAS PUSH ACCESS TO
MASTER!!



WHY TWO REPOS?

- Clean change history
 - track only what was deployed to production
 - can rollback without effecting codebase
- Separation of duties
- Regulation without impeding development

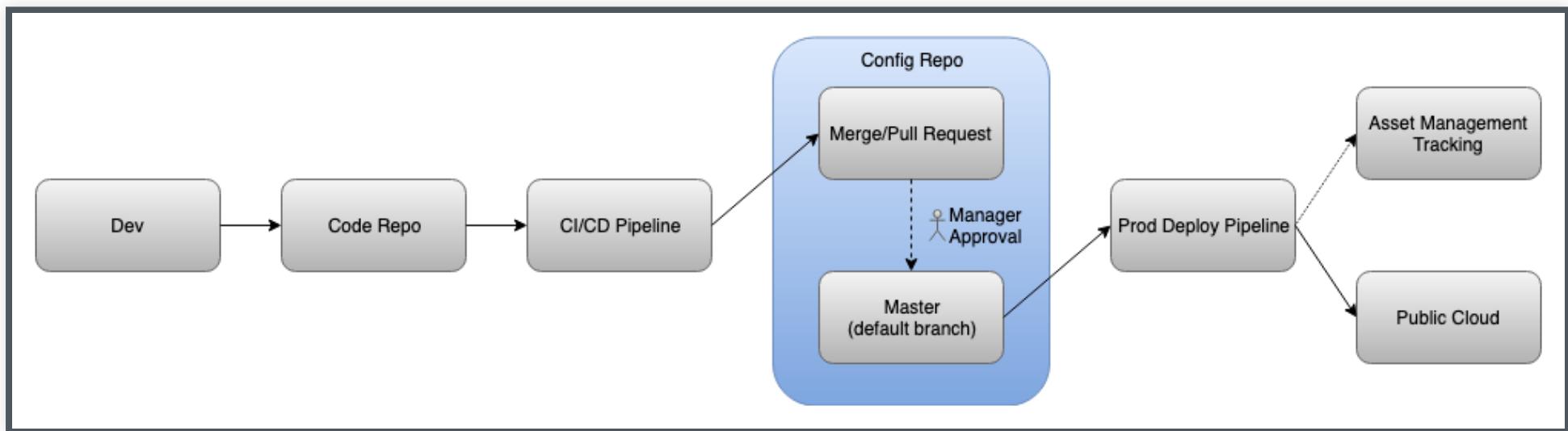


WORKFLOW EXAMPLES

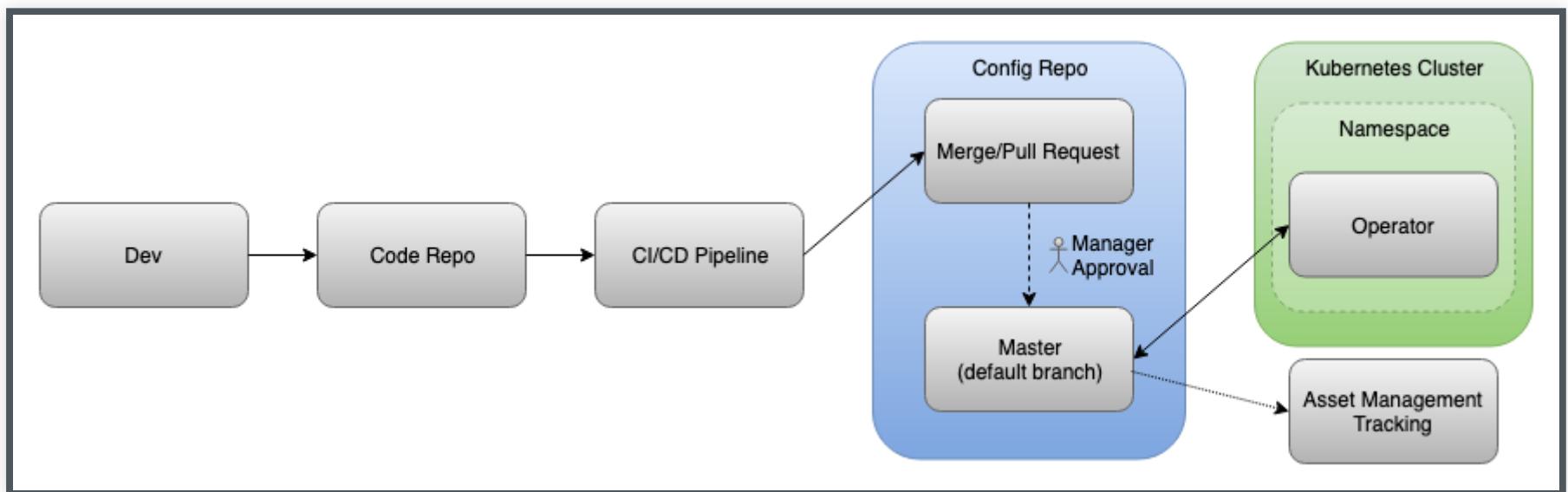
- Public Cloud (push model)
- Kubernetes (pull model)



PUBLIC CLOUD WORKFLOW



KUBERNETES WORKFLOW



DEMO...ISH



Source change merged into master

Commit 1a058bc4 authored 3 days ago by Priyanka Ravi

Merge branch 'add-coverage' into 'master'

Add coverage and unit tests to get full coverage

See merge request !32

-o parents d83ced7c 44b67330 ↵ master

⟳ No related merge requests found

✓ Pipeline #1108734 passed with stages ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ in 8 minutes and 48 seconds

Changes 11 Pipelines 1



Merge request created in config repo

Open Opened 3 days ago by Application_BOT_SET_GIT Edit Close merge request ▾

Release github_collector-1a058bc45253e19c477448ca5f7fb738ae3acf65 to production

Configuration Item

Open Source Contribution Dashboard

Source Change URL

<ocd/github-collector-js@1a058bc4>

Evidence of Test

[https://\[REDACTED\]/eot/tree/master/github-collector/1a058bc45253e19c477448ca5f7fb738ae3acf65](https://[REDACTED]/eot/tree/master/github-collector/1a058bc45253e19c477448ca5f7fb738ae3acf65)

Implementation Plan

Implementation is fully automated using the Continuous Delivery Pipeline to deploy production-ready components

Backout Plan

Failed components will be de-provisioned and a new, fixed version deployed via a new change

Request to merge [github_collector-1a...](#) into [master](#) Open in Web IDE Check out branch ↗

Pipeline #1117479 passed for [a1e67c72](#) on [github_collector-1a...](#) ✓

Requires 1 more approval by 

Merge Ready to be merged automatically. Ask someone with write access to this repository to merge this request

Link to source commit and EOT



Commit 1a058bc4 authored 3 days ago by Priyanka Ravi

Merge branch 'add-coverage' into 'master'

Add coverage and unit tests to get full coverage

See merge request !32

-o parents d83ced7c 44b67330 ↵master

No related merge requests found

Pipeline #1108734 passed with stages ✓✓✓✓✓✓✓✓✓✓✓✓ in 8 minutes and 48 seconds

Changes 11 Pipelines 1

Upload github_collector-1a058bc45253e19c477448ca5f7fb738ae3acf65 build logs
Application_BOT_SET_GIT authored 3 days ago

Name	Last commit	Last update
..		
██████████ workdir	adding reports for com.statefarm.ocd:github-collector ...	3 days ago
████ logs	Upload github_collector-1a058bc45253e19c477448ca...	3 days ago
████ scan.pdf	adding reports for com.statefarm.ocd:github-collector ...	3 days ago

Merge request approved in config repo

Merged Opened 3 days ago by Application_BOT_SET_GIT Edit Report abuse

Release github_collector-1a058bc45253e19c477448ca5f7fb738ae3acf65 to production

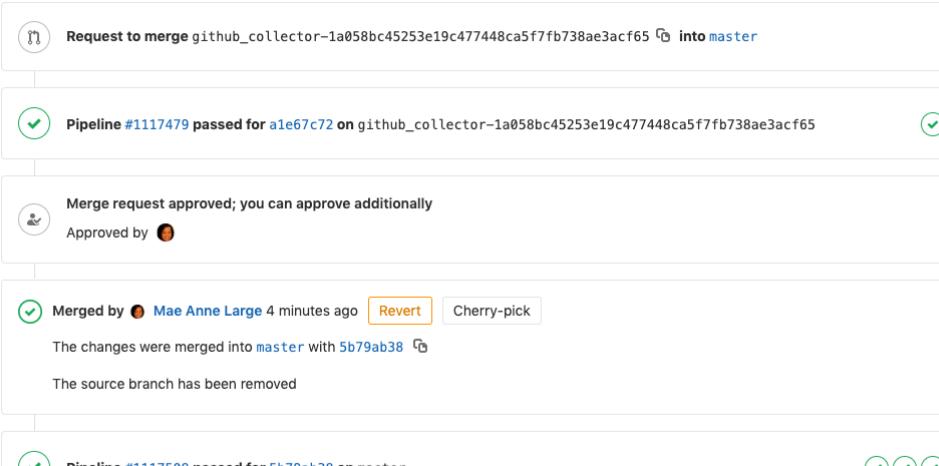
Configuration Item
Open Source Contribution Dashboard

Source Change URL
ocd/github-collector-js@1a058bc4

Evidence of Test
[https://\[REDACTED\]/eot/tree/master/github-collector/1a058bc45253e19c477448ca5f7fb738ae3acf65](https://[REDACTED]/eot/tree/master/github-collector/1a058bc45253e19c477448ca5f7fb738ae3acf65)

Implementation Plan
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The screenshot shows a sequence of status updates for a merge request:

- Request to merge github_collector-1a058bc45253e19c477448ca5f7fb738ae3acf65 into master
- Pipeline #1117479 passed for a1e67c72 on github_collector-1a058bc45253e19c477448ca5f7fb738ae3acf65
- Merge request approved; you can approve additionally
Approved by Mae Anne Large
- Merged by Mae Anne Large 4 minutes ago
The changes were merged into master with 5b79ab38
- The source branch has been removed
- Pipeline #1117508 passed for 5b79ab38 on master

Change logged to asset management tracking solution

ocd-config_github-collector_25 Change Record

Description

[https://\[REDACTED\]/ocd-config/github-collector/merge_requests/25](https://[REDACTED]/ocd-config/github-collector/merge_requests/25)

Attributes Show blank values

Core

Actual End Date

2019-10-21

Actual Start Date

2019-10-21

Category

Change Record

Change Agent

BOT_SET_GIT

Change Environment

Production

Change Title

Release github_collector-1a058bc45253e19c477448ca5f7fb738ae3acf65
to production

Deployable

github-collector

Element Name

ocd-config_github-collector_25

Last Seen Date

20191021

Last Update From GitOps-ASC

2019-10-21 15:18

Logical Group

Open Source Contribution Dashboard



THANK YOU!!

Mae Large

mae.a.large.rm44@statefarm.com

Russ Parmer

russ.parmer.fgcm@statefarm.com



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