

**ARGO DEPLOY
YOURSELF**



SEE THE MOVIE?

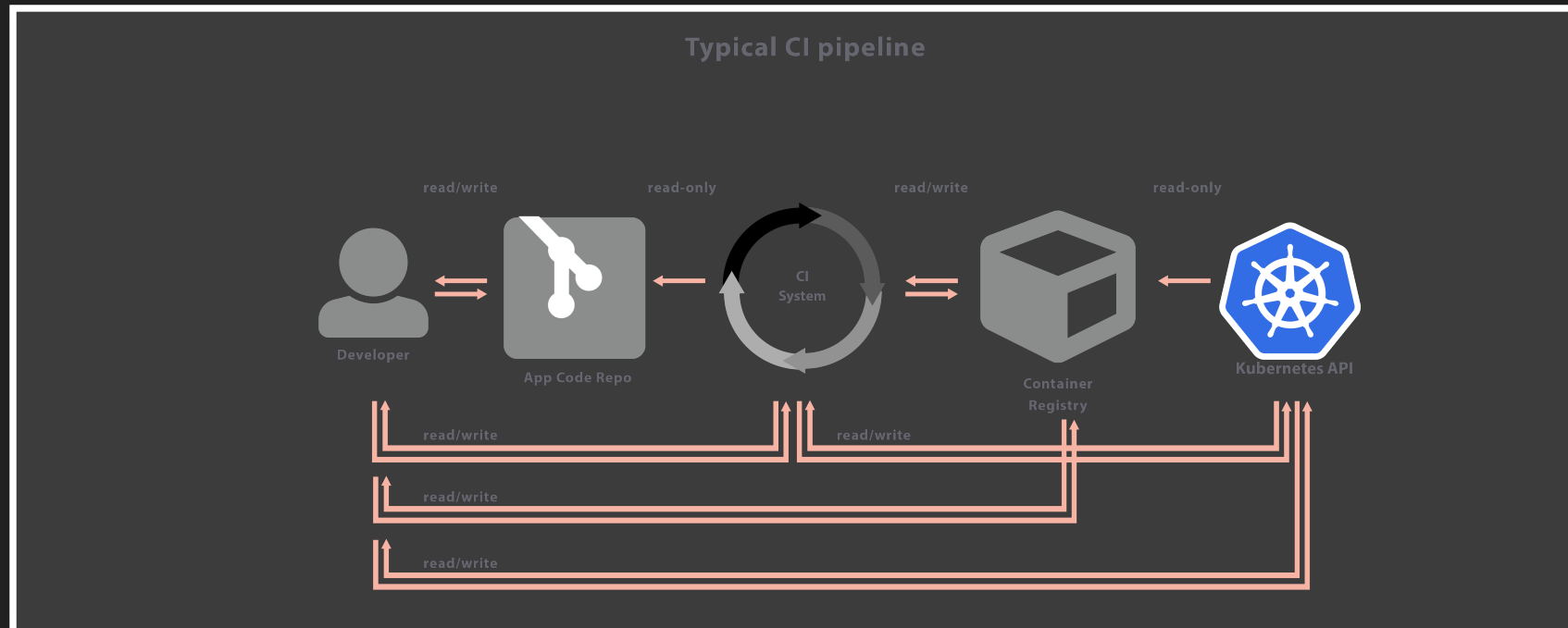
WHAT IS GITOPS?

- Describe your desired software system as files stored in git
- An agent ensures the live system is the same as the state in Git

HISTORY OF GITOPS

- First published by Weaveworks
- Kubernetes anti-patterns: Let's do GitOps not CiOps

Typical CI pipeline



WHAT DO YOU NEED FOR GITOPS?

1. Git repository
2. Agent
3. Kubernetes cluster

OTHER USEFUL STUFF

- Manifest generation tool
- CI system
- Web UI

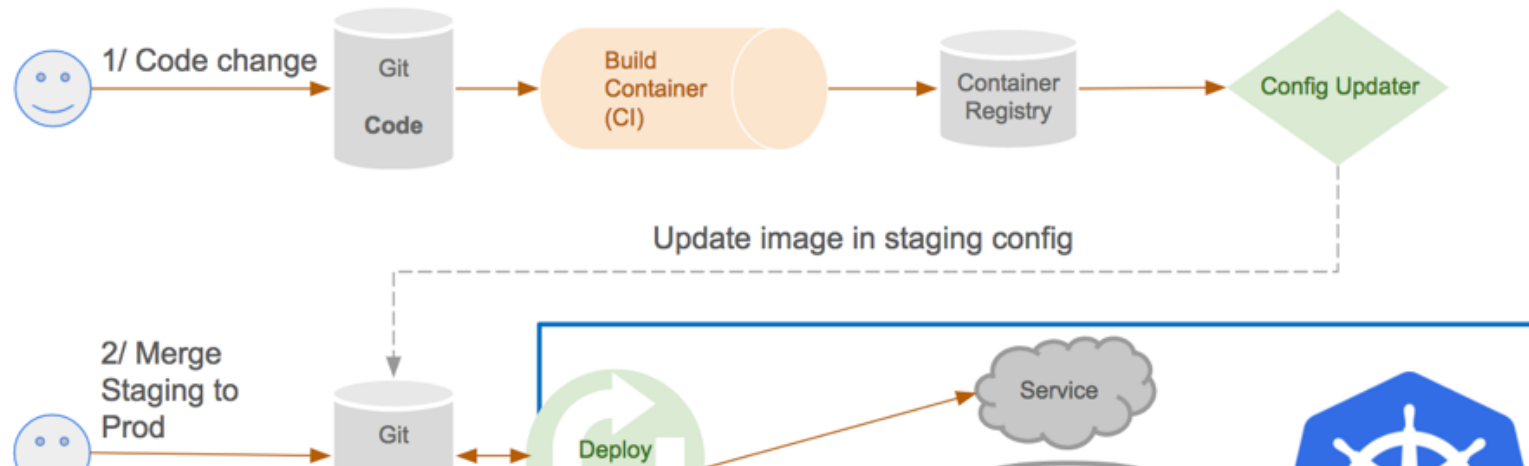
BENEFITS OF GITOPS

- Single source of truth
- Security, compliance and auditing
- Developer centric
- Trivializes rollback
- Declarative

**HOW DOES GITOPS ACTUALLY
WORK?**

CI/CD









Example GitOps Pipeline



GIT COMMITS ARE SIGNALS







- Build triggered by commit to **Code** repo
- Deployment triggered by commit to **Config** repo
- Separate repos? (In the beginning maybe)

CODE + CHART IN SAME REPO?

 Travis CI [ci skip] Updated helm chart to v2.0.13		Latest commit bce5d7c 26 days ago
 chart	[ci skip] Updated helm chart to v2.0.13	26 days ago
 cmd/ops-demo1	Set the version within the pod	26 days ago
 .gitignore	Initial version	10 months ago
 .travis.yml	Fix build bug on non-master branch	26 days ago
 Dockerfile	Revised Dockerfile to use 'go build'	26 days ago
 Makefile	Use Buildx to create images and use registry image layer caching (#3)	last month
 README.md	Commit latest changes	26 days ago

- This is how we started

COMMIT HISTORY

Commits on Jan 29, 2020		
[ci skip] Updated helm chart to v2.0.13  Travis CI committed 26 days ago	 bce5d7c	
Revised Dockerfile to use 'go build'  myspotontheweb committed 26 days ago ✓	 81f2f3d	







COMMIT CHANGES

▼ 2	1	2	chart/Chart.yaml	📄
	1	2	@@ -2,4 +2,4 @@	apiVersion: v1
2	2	2	appVersion: "1.0"	
3	3	3	description: A Helm chart for Kubernetes	
4	4	4	name: opsdemo1	
5			- version: v2.0.12-4-ga111add	
	5		+ version: v2.0.13	

▼ 2	1	2	chart/values.yaml	📄
	1	2	@@ -2,7 +2,7 @@	opsdemo1:
2	2	2	replicaCount: 2	
3	3	3	image:	
4	4	4	repository: teamwork/ops-demo1	

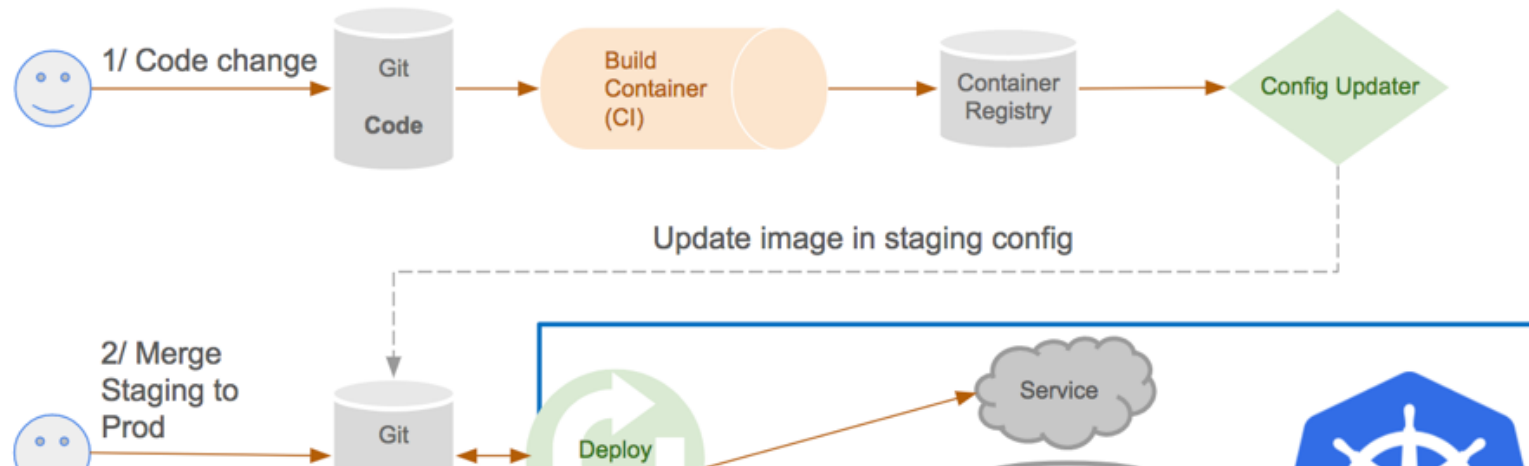
[SKIP CI]

Commits on Jan 29, 2020

[ci skip] Updated helm chart to v2.0.13  Travis CI committed 26 days ago	 bce5d7c	
Revised Dockerfile to use 'go build'  myspotontheweb committed 26 days ago ✓	 81f2f3d	

REVIEW PIPELINE AGAIN

Example GitOps Pipeline



APPLICATION FRAGMENT

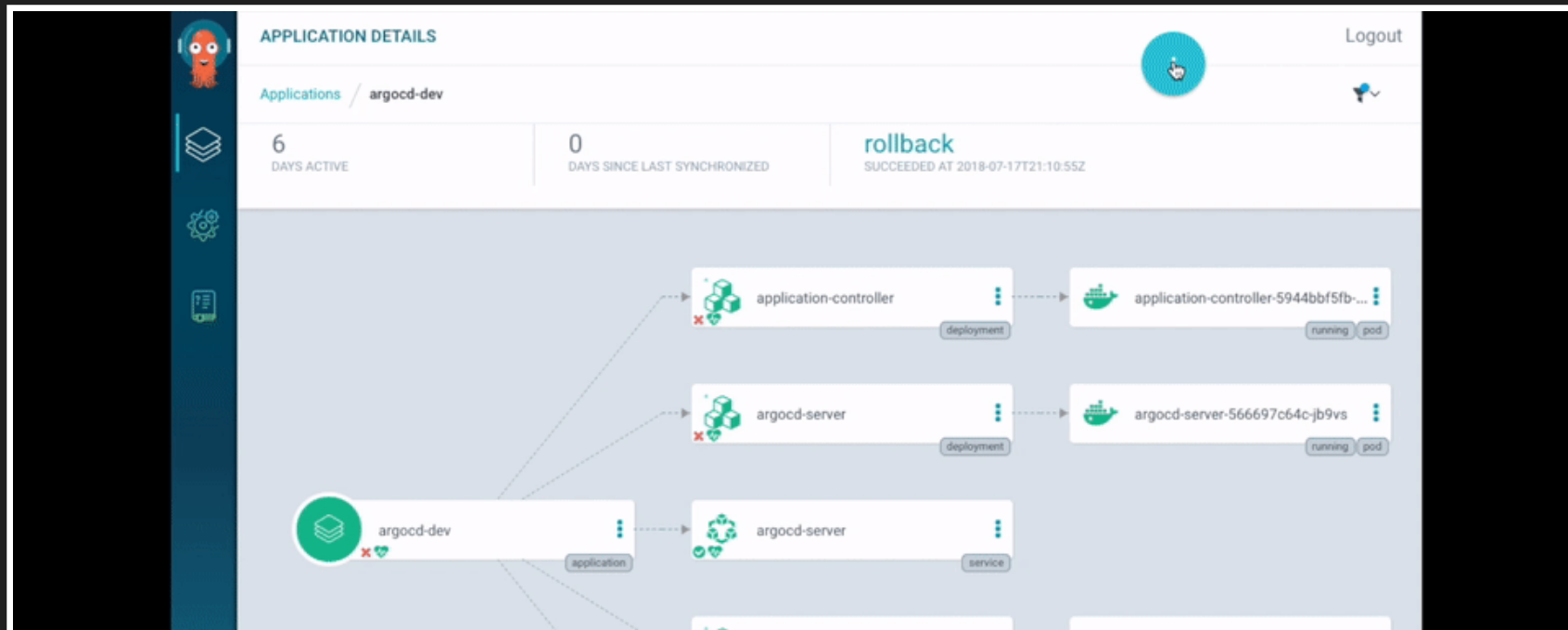
```
$ kubectl get application ops-demo1 -oyaml | yq r - spec.source
helm:
  values: |
    ingress:

      hostname: ops-demo1.us.teamworkops.com
    opsdemo1:
      replicaCount: 3
    config:
      HELLO: "world"
      HOLA: "mundo"
  path: chart
  repoURL: git@github.com:Teamwork/ops-demo1.git
```


BEST PRACTICES

1. Two repos: One for code the other for deployment
2. Chose the right number of deployment repos
3. Test your manifests before you commit
4. Git manifests should not change to to external influences

THOUGHT THIS TALK WAS ABOUT ARGO CD?



TOUR OF THE UI

<https://argocd.us.teamworkops.com>

1. SSO enabled
2. Multi-tenanted
3. Visual map of application components
4. Status
5. Inspect Yaml and logs

DEMO: BUILD AND DEPLOY

- Commit a change and watch it get built and deployed

CREDITS



I LOVE QUESTIONS

