Everything You Need To Be A **GitOps Ninja**

Alex Collins & Alex Matyushentsev

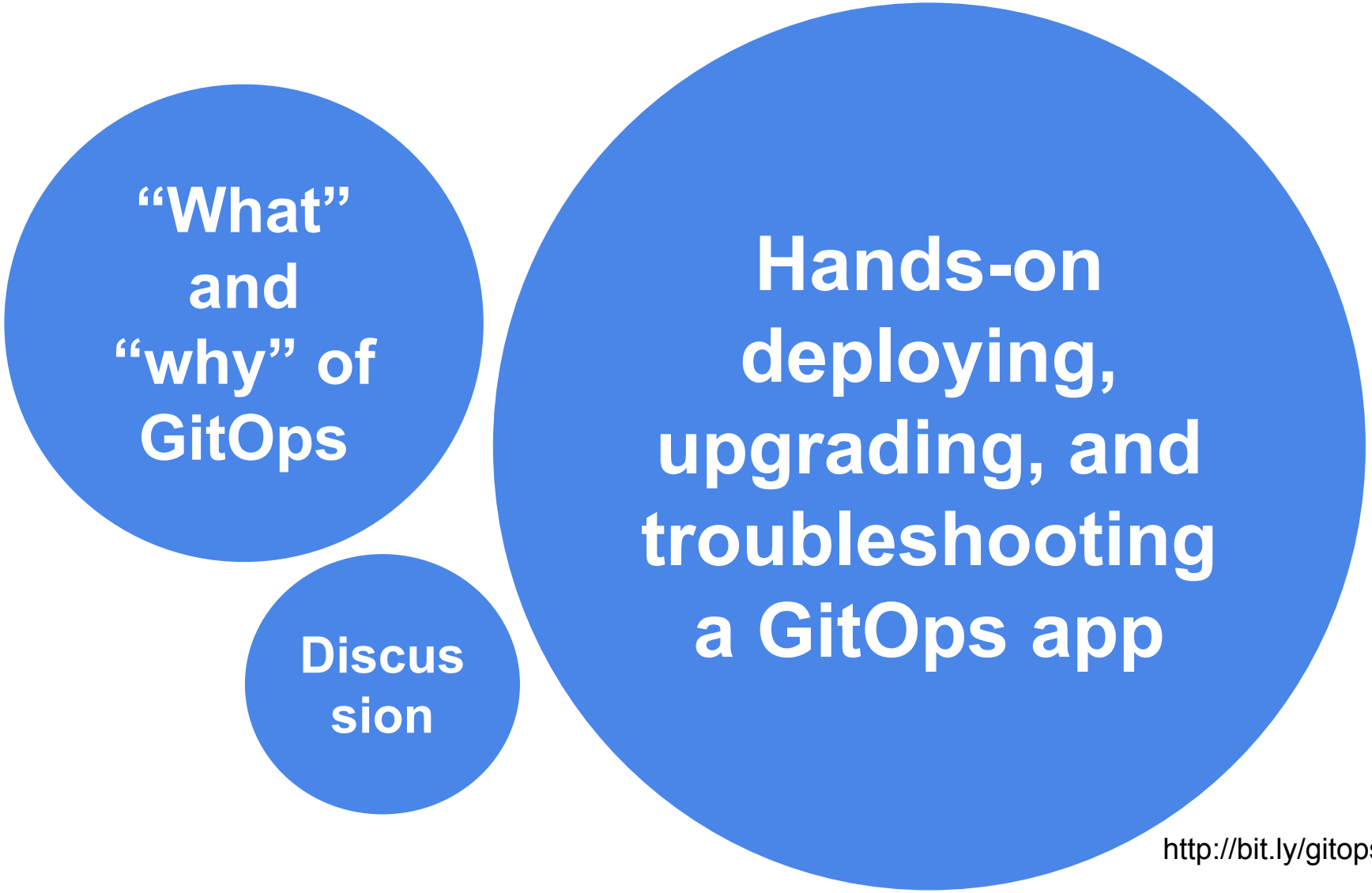
http://bit.ly/gitops-workshop-help

Get ready!

For the hands-on, now's a good time to:

1. Join our Slack: http://bit.ly/argocd-slack (#gitops-workshop)
2. Login in to github.com
3. Test cloning and pushing code to github.com
4. Install a package manager (e.g. Brew/Chocolatey)
5. Install Git

Overview



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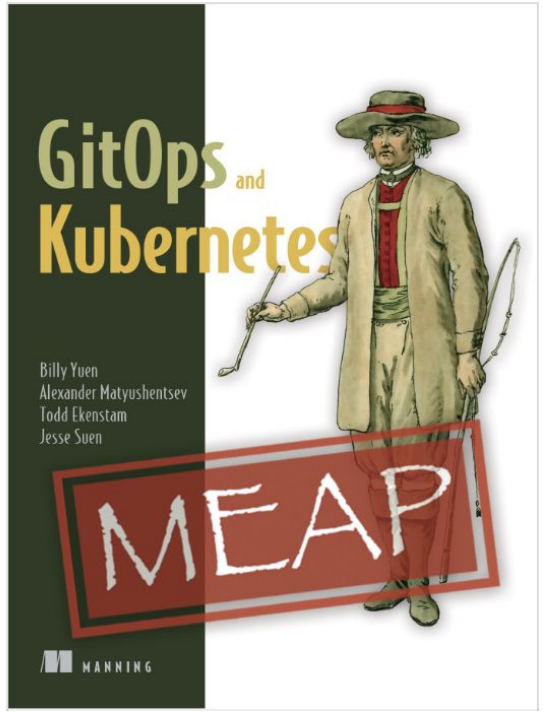
Who Are We?

Alex Collins is a Principal Engineer working on Intuit's Modern SaaS platform. Previously he was the EMEA Software Architect on QuickBooks Online based in London, as well as a blogger and author.

Who Are We?

Alexander Matyushentsev is a Principal Engineer in the Intuit Modern SaaS team. He is focused on building tools which makes it easier to use Kubernetes. He is a core contributors to "Argo Workflows" and "Argo CD" projects.

He's also an author on"GitOps and Kubernetes".



http://bit.ly/gitops-and-k8s

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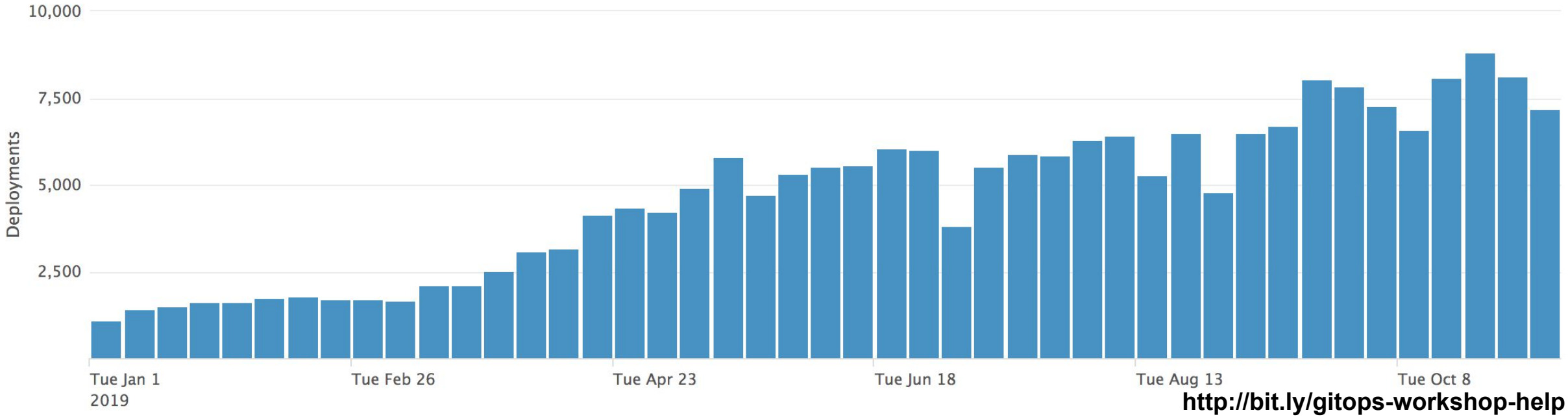
Some Intuit Statistics

INTUIT

- 4 business units
- 30 business segments
- 1,200+ developers using Kubernetes

kubernetes

- 160+ clusters (Intuit managed)
- 6,600 nodes
- 5,400 namespaces
- 62,000 pods
- 1,300 deploys a day



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Intuit and OSS

Admiral

Keiko

Argo

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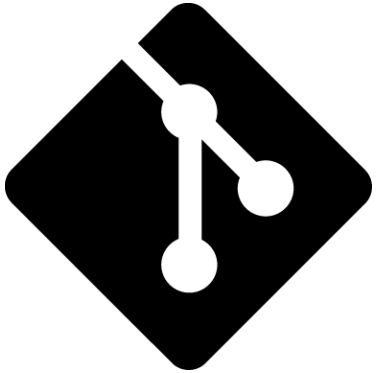
What Is GitOps

- Your desired software system is described by files in Git
- An agent ensures the live system is in the same state as Git

What Is GitOps?



Git repo

Agent

Kubernetes cluster

http://bit.ly/gitops-workshop-help

What Is GitOps?

Useful:

- Manifest generation tool
- CI system
- A way to group Kubernetes resources

Why GitOps?

- Single source of truth
- Security, compliance, and auditing
- Developer centric
- Trivialises rollback
- Declarative
- Observable - detect configuration drift
- Velocity

Demo: Poor Man's GitOps

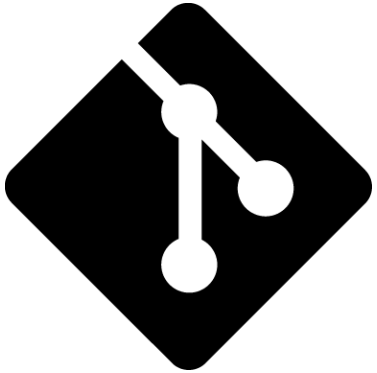
https://github.com/gitops-workshop/my-app
https://github.com/gitops-workshop/poor-mans-gitops

Poor Man's GitOps: Problems

- Security
- Observability
- Impact
- Latency
- Single tenancy

KubeCon
CloudNativeCon
North America 2019
Introduction to Argo CD

What Is Argo CD?



Git repo

Agent

Kubernetes cluster

Argo Community

Argo Stars

argoproj / argo-cd

Unwatch 71 | Unstar 2k | Fork 334

Code | Issues 170 | Pull requests 27 | Actions | Security | Insights | Settings

Stargazers

All 1,974 | You know 1

JohnPaton
@Catawiki
Follow

danielhelfand
@vmware
Follow

dapx
Jaraguá do Sul, SC
Follow

andreschaffer
Stockholm, Sweden
Follow

jonasdkhansen
Denmark, Copenhagen & Odense
Follow

Savemech
Russia, Moscow
Follow

zhixiangjoy
Joined on Nov 6, 2015
Follow

d-led
Munich, Germany
Follow

nmlc
Joined on Jul 28, 2018
Follow

voodooGQ
@onicagroup
Follow

bmillemathias-1a
@AmadeusITGroup
Follow

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KubeCon
CloudNativeCon
North America 2019
Demo: Argo CD
http://bit.ly/argocd-kubecon

KubeCon
CloudNativeCon
North America 2019
Hands-On
http://bit.ly/gitops-handson
Thank you to Digital Ocean for hosting the Argo CD instance in this hands-on.
DigitalOcean

What Is Kustomize?

- A CLI tool for templating YAML
- It works by applying one or more **overlays** to a **base** set of manifest

Kustomize is great for apps you use yourself.

What Is Helm?

- A CLI tool to package apps into **“charts”**
- A **chart** is a tarball containing, meta-data, e.g .name and version, templated YAML files, default “values”.

Helm is great for packaging an app for others to install.

Helm or Kustomize or other*...?

If you need to package apps to share with other people choose Helm, otherwise Kustomize.

http://bit.ly/state-of-config-mgmt

Also Jsonnet, Replicated Ship, raw YAML

Hands-On: GitOps Secrets

https://github.com/gitops-workshop/secrets

https://github.com/argoproj/argo-cd/stargazers

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Find Out More?
Come find us at the Intuit booth S47.
intuit
SCAN ME