



// GITOPS BY EXAMPLE - REPOS, PATTERNS, PROMOTION, PROCESSES

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Slides



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Version: 202410231757-9ccf7a8

Live example

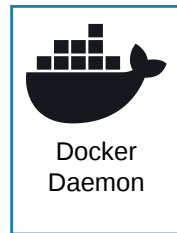




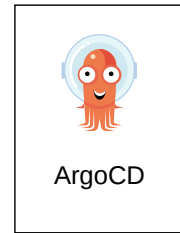
Developer's host



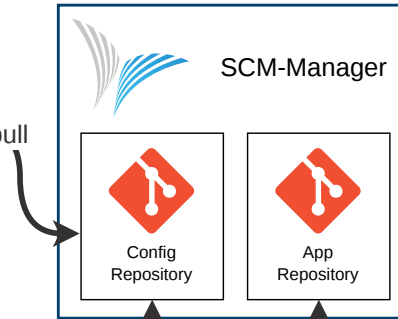
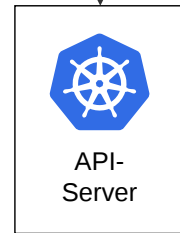
K3D Container



run



apply resources



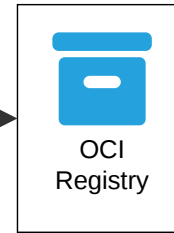
pull

push config
and create pull request



pull

image push



Meet GOP

a GitOps-based operational stack (platform)



```
VERSION='0.7.0'
bash <(curl -s \
  "https://raw.githubusercontent.com/cloudogu/gitops-playground/$VERSION/scripts/init-cluster.sh") \
&& docker run --rm -t -u $(id -u) \
  -v ~/.config/k3d/kubeconfig-gitops-playground.yaml:/home/.kube/config \
  --net=host \
  ghcr.io/cloudogu/gitops-playground:$VERSION --yes --base-url=http://localhost --ingress-nginx --argocd
# Other interesting options  --monitoring --vault=dev --mailhog
```

 [cloudogu/gitops-playground](https://github.com/cloudogu/gitops-playground)

Example 1: GOP

- **Repo pattern:**

Per team 🗑️ per app

- **Operator pattern:**

Instance per Cluster

(Hub and Spoke)

- **Operator:** 🐙

- **Boostrapping:**

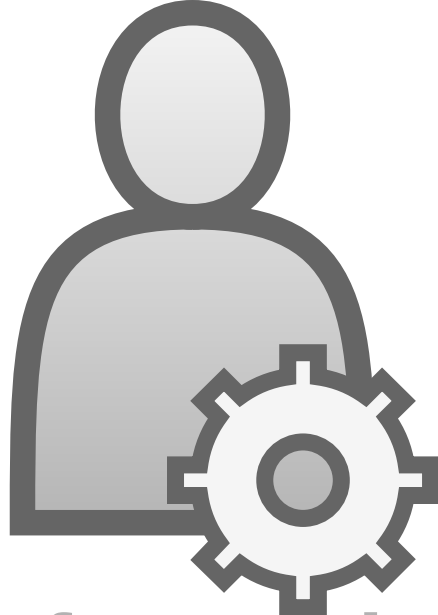
Helm, kubectl

- **Linking:** 🐙

Application

- **Features:**

- Operate ArgoCD with GitOps
- Solution for



Platform admin



argocd



applications




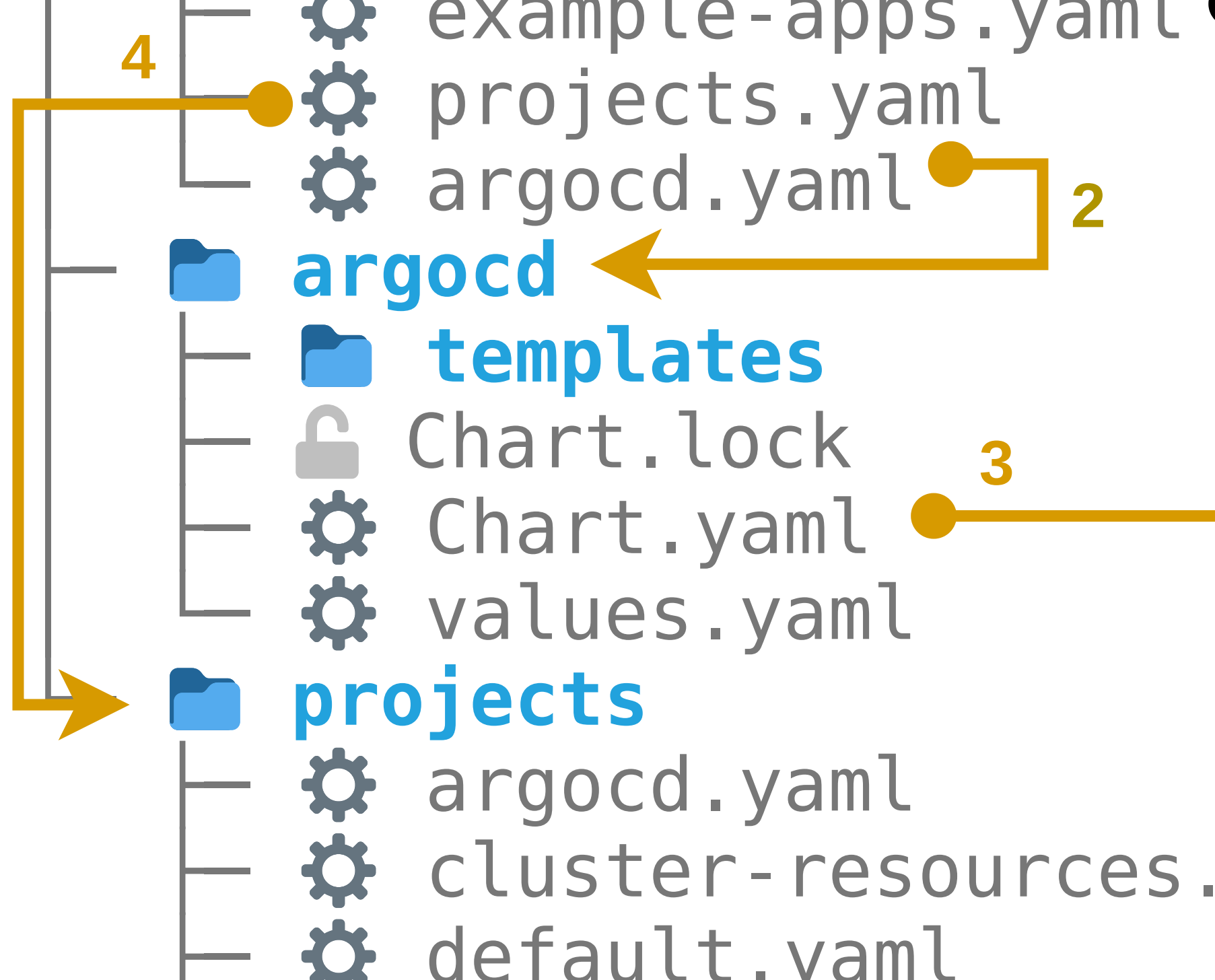
bootstrap.yaml
cluster-resources.
example-apps.yaml

1

5

cluster
resources

- Config
update +
replication
via CI
- Env per app
pattern
- Mixed repo
patterns
- **Source:**  [cloudogu/gitops-
playground](https://github.com/cloudogu/gitops-playground)





example-apps.yaml

<https://github.com/argoproj/argo-helm/releases/download/>



cluster-resources



apps



argocd

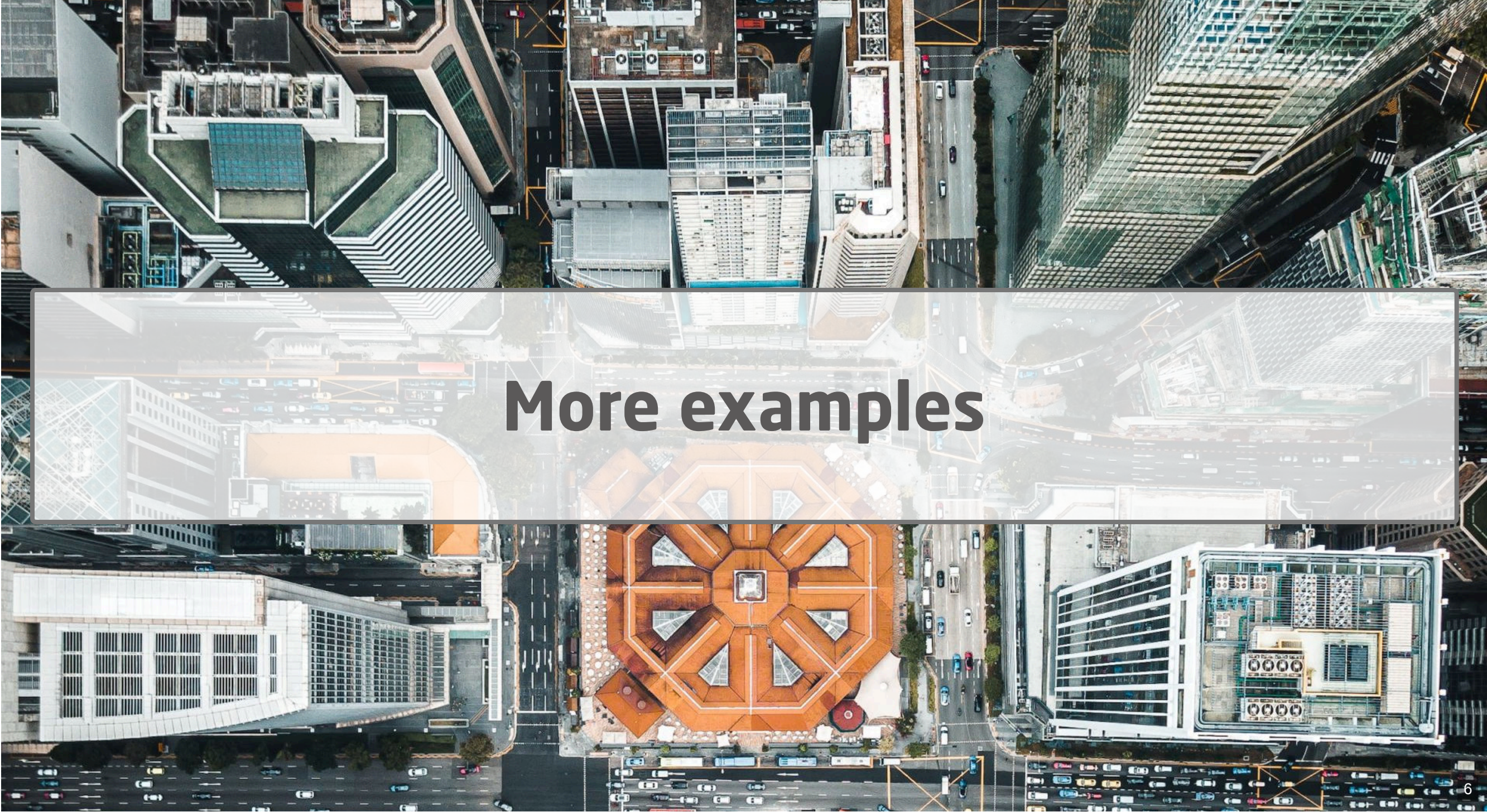


misc

<g



transform="translate(-0.5,-0.5)"

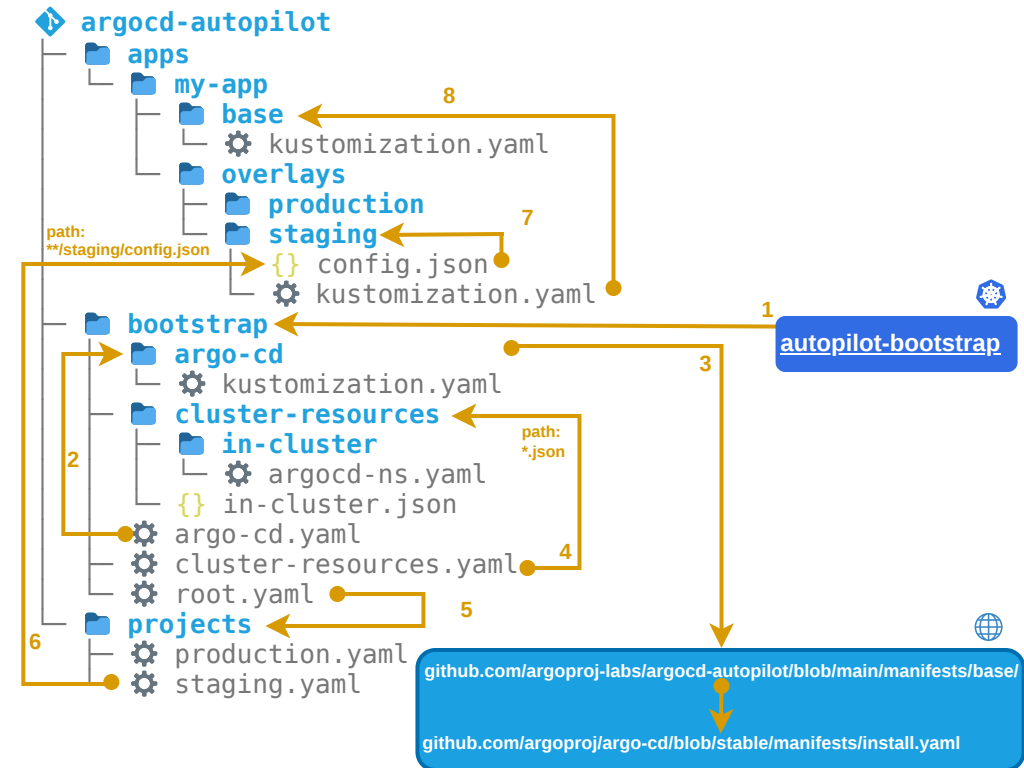

```
id="g191">
<switch
  id="switch189">
    <foreignObject
      pointer-events="none"
      width="100%"
      height="100%"
      requiredFeatures="http://www.w3.org/TR/SVG11/feature#Ext
      style="overflow: visible; text-align: left;">
      <html:div
        style="display: flex; align-items: unsafe center; just
        <html:div
          data-drawio-colors="color: #D33833; "
```






More examples

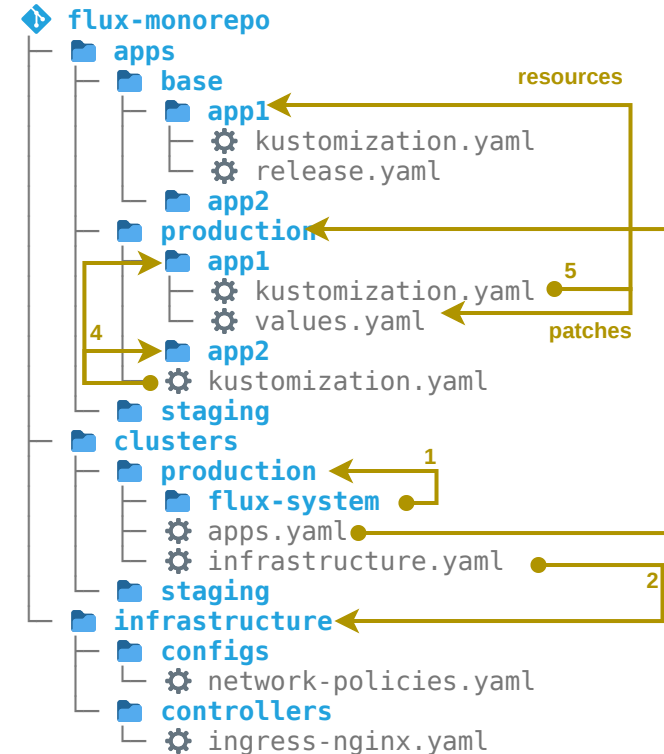
Example 3: ArgoCD autopilot

- **Repo pattern:** Monorepo
- **Operator pattern:** Standalone / Hub and Spoke
- **Operator:** 🐙
- **Boostrapping:** argocd-autopilot
- **Linking:** 🐙 Application, ApplicationSet, 
- **Features:**
 - Operate ArgoCD with GitOps
 - Opinionated structure and YAML creation via CLI
- **Source:**  [argoproj-labs/argocd-autopilot](https://github.com/argoproj-labs/argocd-autopilot)






Example 4: Flux Monorepo

- **Repo pattern:** Monorepo
- **Operator pattern:** Standalone
- **Operator:**  (🐙?)
- **Boostrapping:** flux
- **Linking:**  Kustomization, 
- **Features:**
 - Cross-cutting infra
 - Operate Flux with GitOps
- **Source:**
 -  [fluxcd/flux2-kustomize-helm-example#16](https://github.com/fluxcd/flux2-kustomize-helm-example#16)
 -  fluxcd.io/flux/guides/repository-structure

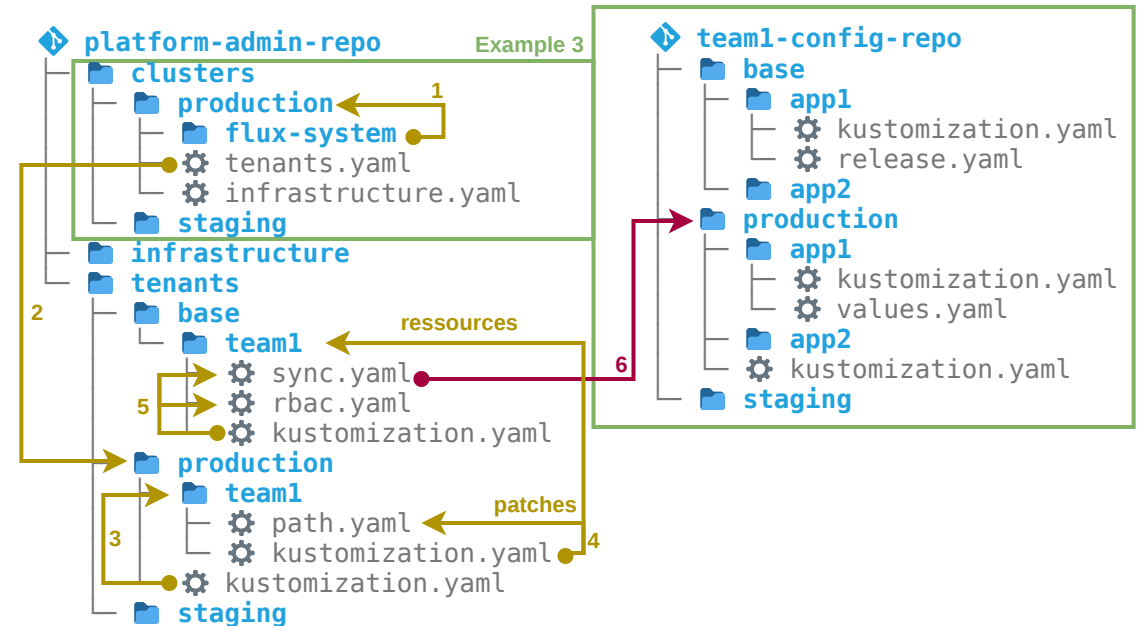


Example 5: Flux repo per team








- **Repo pattern:** Repo per team
- **Operator pattern:** Standalone
- **Operator:**  (🐙?)
- **Boostrapping:** flux
- **Linking:**  Kustomization, 
- **Features:** Ex 5 with repo for team
- **Source:**

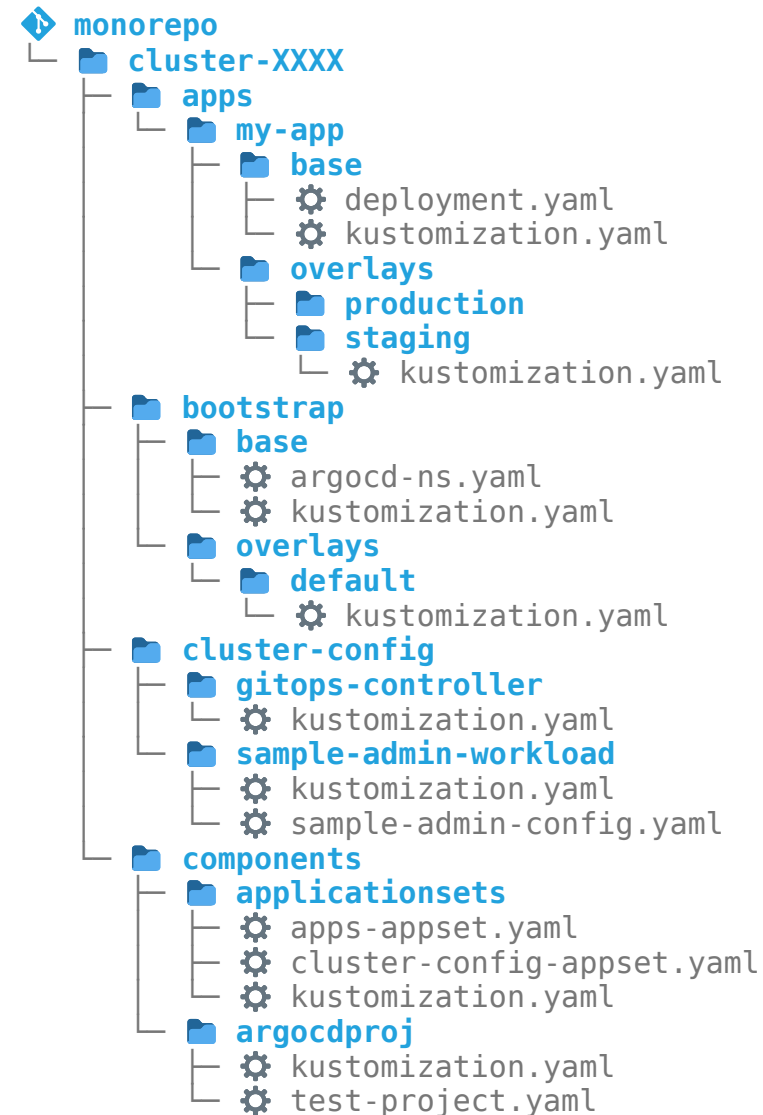
 [fluxcd/flux2-multi-tenancy](https://github.com/fluxcd/flux2-multi-tenancy)

 fluxcd.io/flux/guides/repository-structure





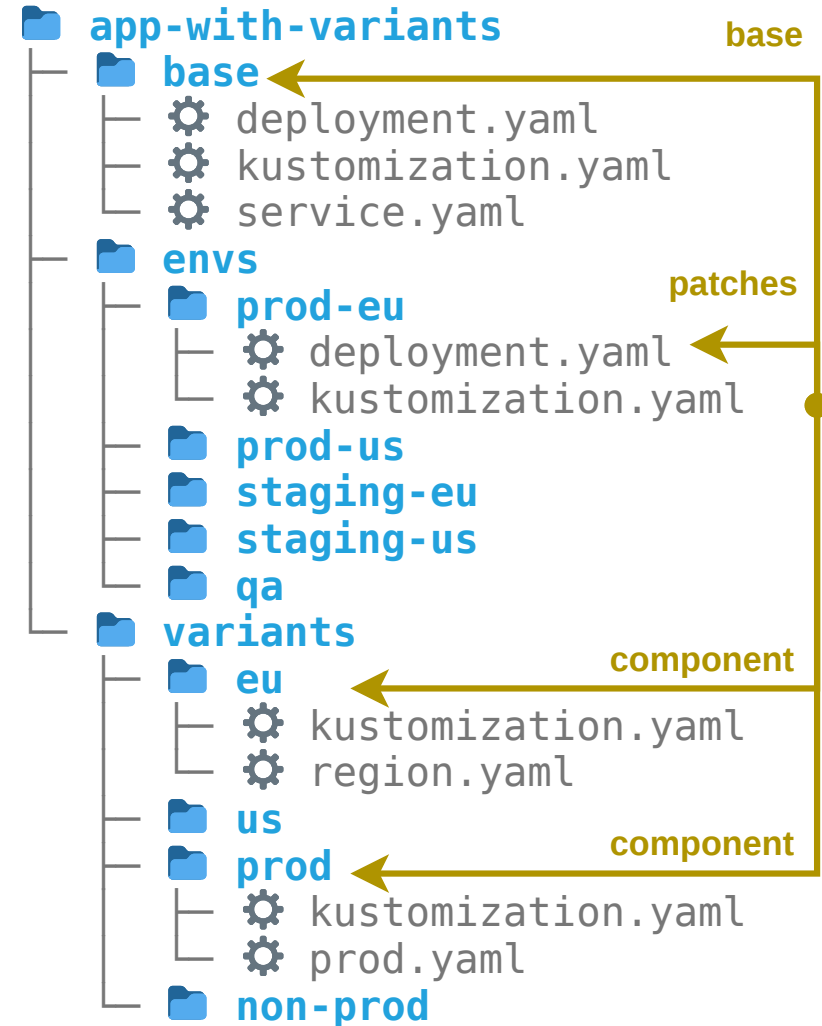
Example 6: ArgoCD and Flux alternative

- **Repo pattern:** Monorepo
- **Operator pattern:** Standalone
- **Operator:**  
- **Boostrapping:** `kubectl`
- **Linking:**  Application, ApplicationSet /  Kustomization, 
- **Features:**
 - Cross-cutting infra and app(s)
 - ArgoCD **and** Flux examples
- **Source:**
 -  [christianh814/example-kubernetes-go-repo](https://github.com/christianh814/example-kubernetes-go-repo)
 -  C. Hernandez - The Path to GitOps

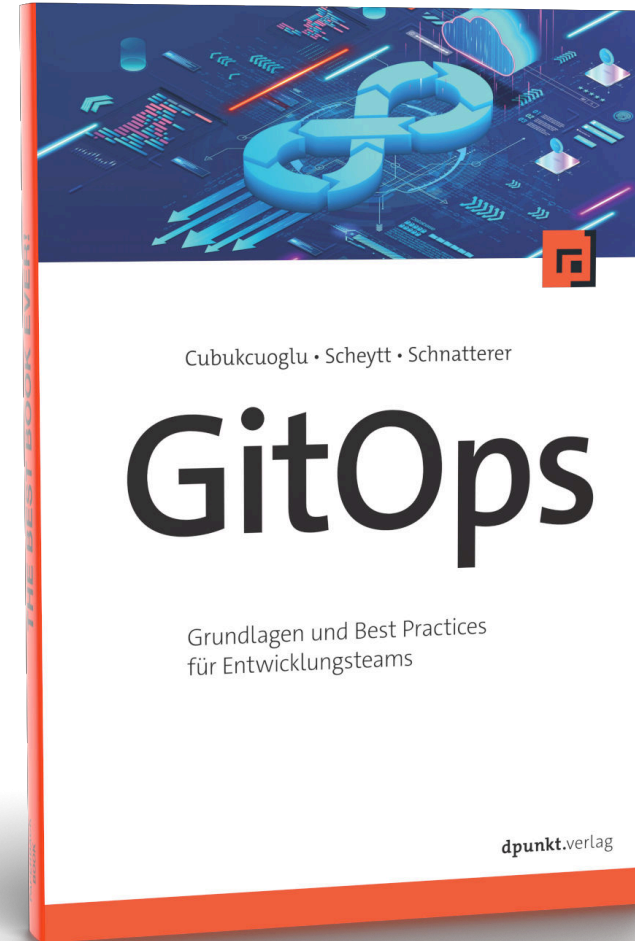
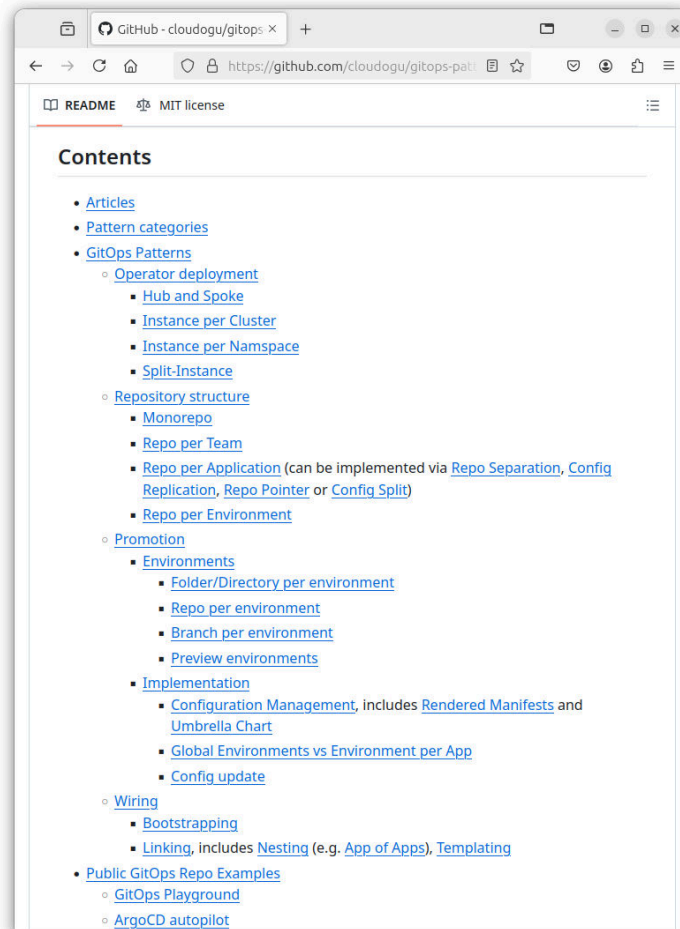


Example 7: Environment variations

- **Operator:** 🐙 (📄)
- **Linking:** 
- **Features:**
 - Env variants for a single app
 - Promotion "via `cp`"
- **Source:**
 [kostis-codefresh/gitops-environment-promotion](https://github.com/kostis-codefresh/gitops-environment-promotion)



More patterns + further reading



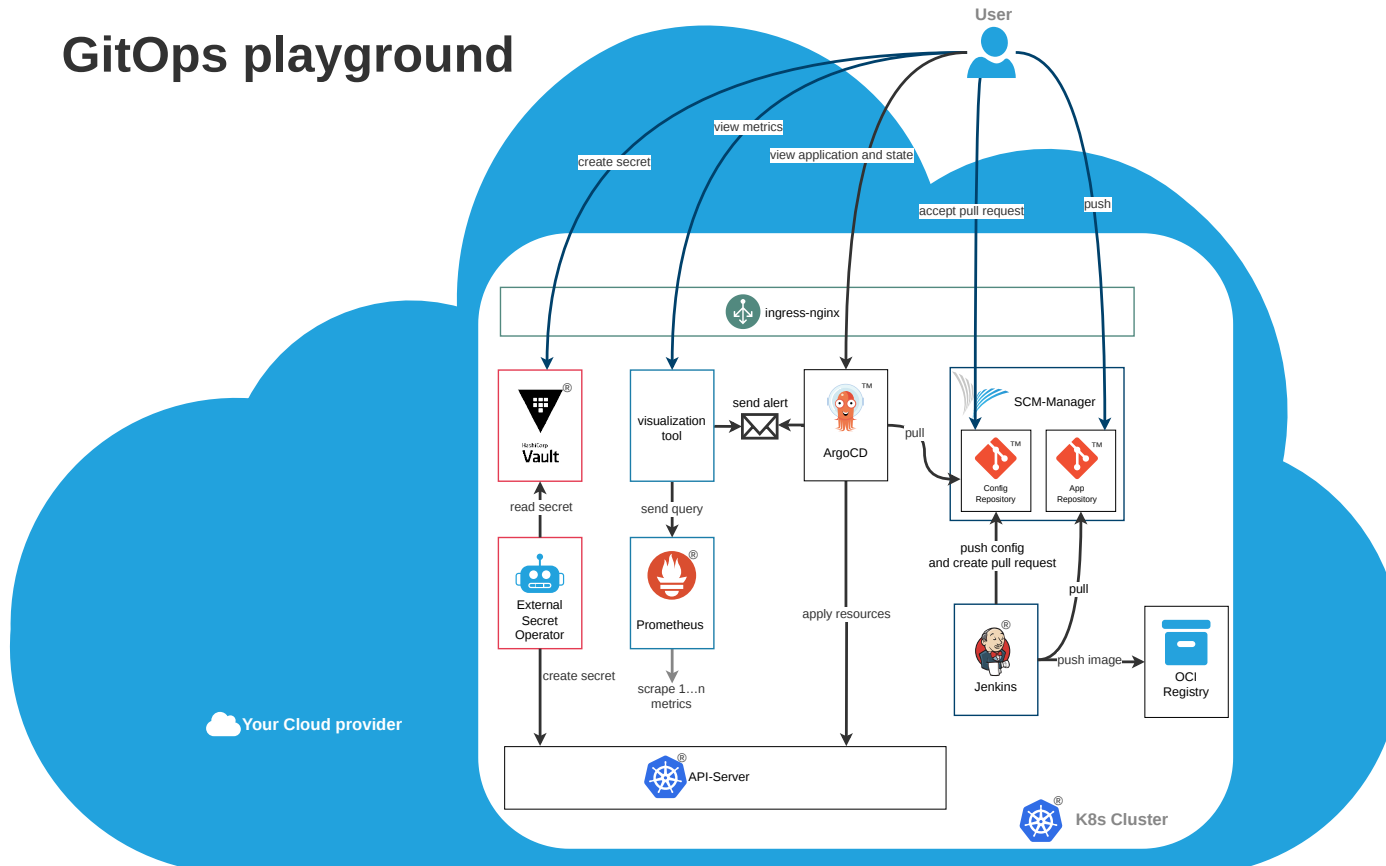
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 cloudogu/gitops-playground

GitOps playground



Slides



Image sources

- Live Example:
<https://unsplash.com/photos/assorted-color-hot-air-balloons-during-daytime-DuBNA1QMpPA>
- More examples:
<https://unsplash.com/photos/XZc4f2XZc84>
- coloured-parchment-paper background by brgfx on Freepik:
https://www.freepik.com/free-vector/coloured-parchment-paper-designs_1078492.htm