

# GitOps Built-In Disaster Recovery

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HPC@ETHZ  
23 May 2024, Lupfig CH



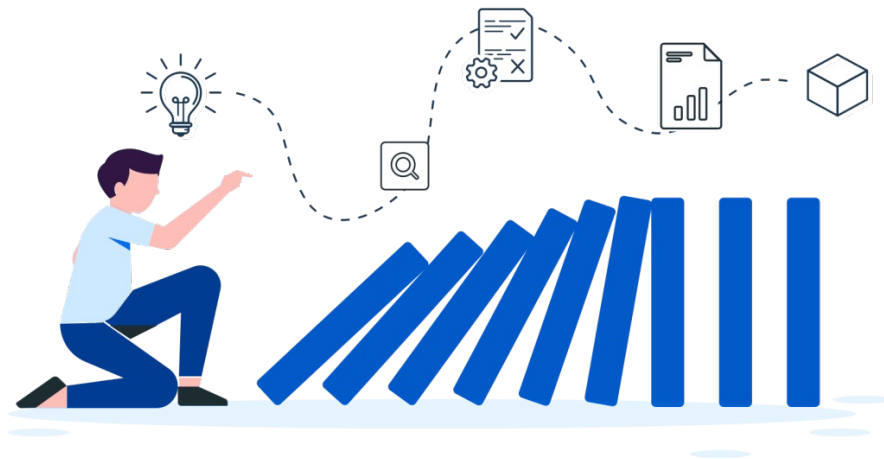
# Agenda

1. What is GitOps?
2. How do we do it at ETH ?
3. What all this have to do with the disaster recovery?

Gitops, what?

A **declarative** approach that uses **Git Repository** as the **source of truth** to deliver **infrastructure as a code**.

# Declarative Approach

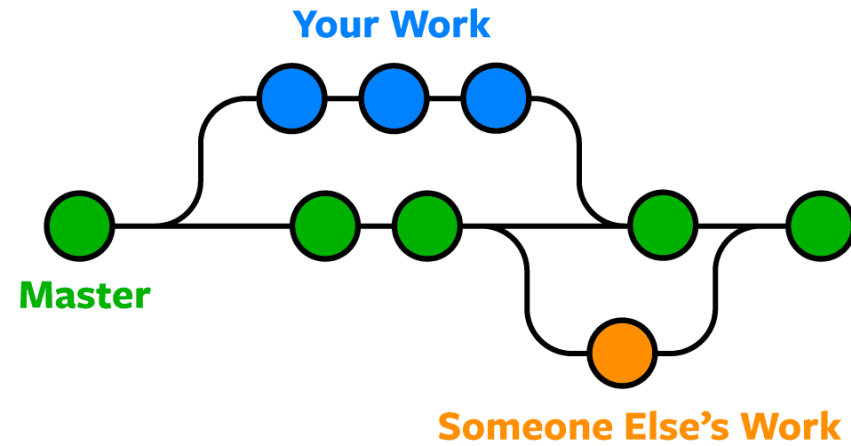


**Imperative**

```
ingress:  
  enabled: true  
  ingressClassName: traefik  
  path: /  
  hosts:  
  | - logs.euler.hpc.ethz.ch  
  annotations: {  
  |   traefik.ingress.kubernetes.io/router.tls: "true",  
  |   cert-manager.io/cluster-issuer: letsencrypt-prod  
  | }  
  tls:  
  | - hosts:  
  | | - logs.euler.hpc.ethz.ch  
  | |   secretName: logs-euler-hpc-ethz-ch-tls  
grafana.ini:  
  auth.ldap:  
  | enabled: true  
ldap:  
  enabled: true  
  existingSecret: ldap-config
```

**Declarative**

# A git repository as the source of truth.

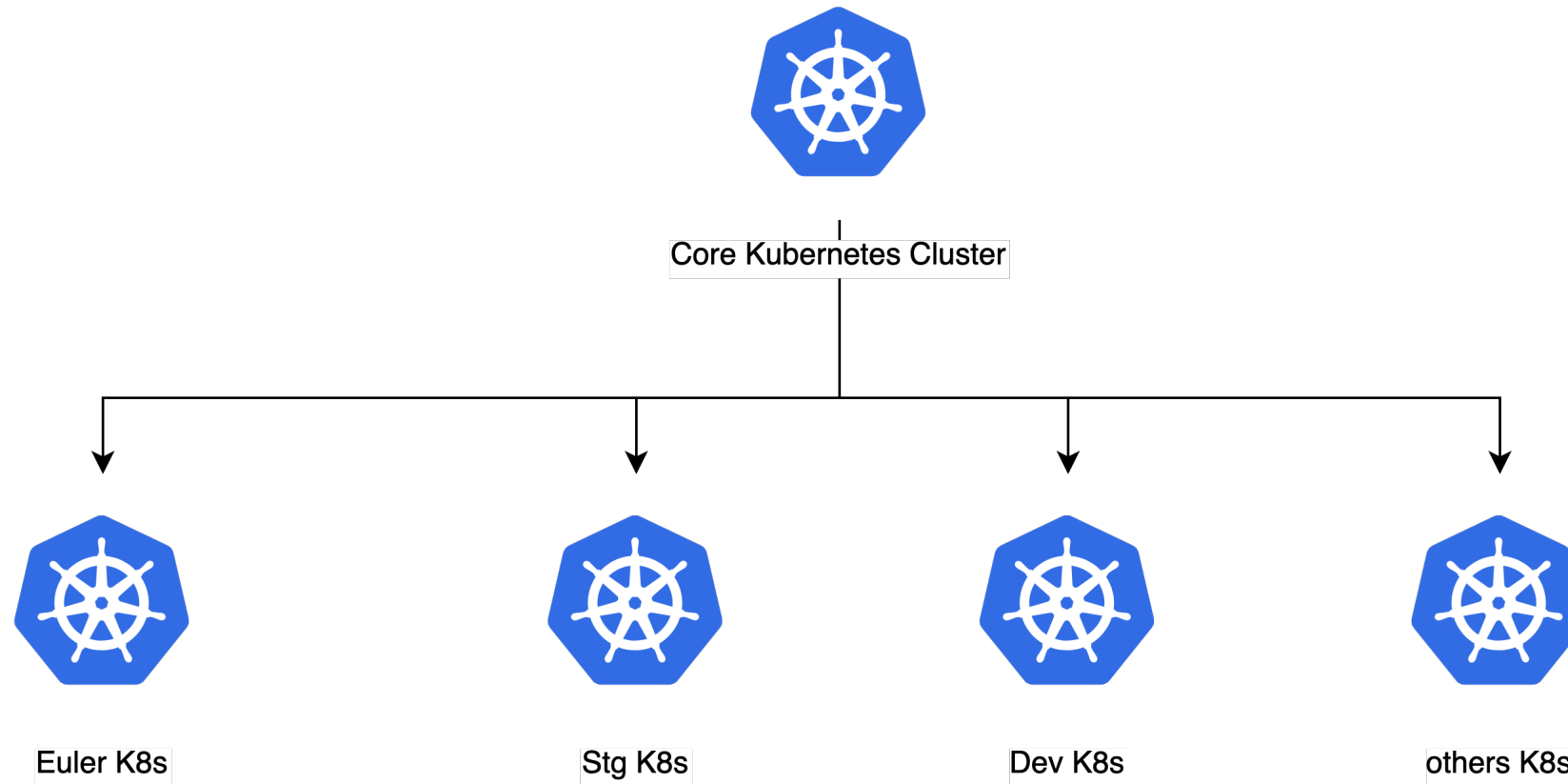


Delivers: Infrastructure as a code (IaC).

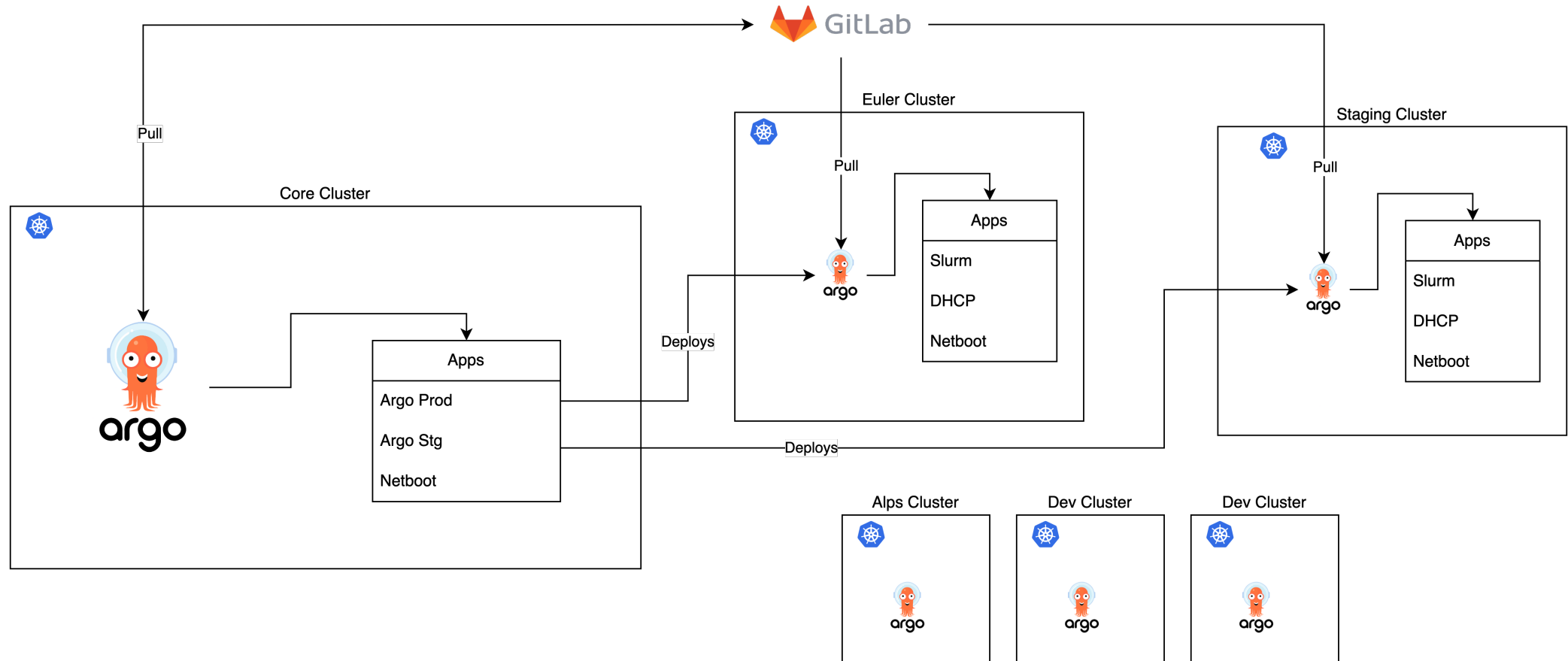
The glue between the code (declarations) and the running infrastructure.



# ETH HPC's Infra overview.

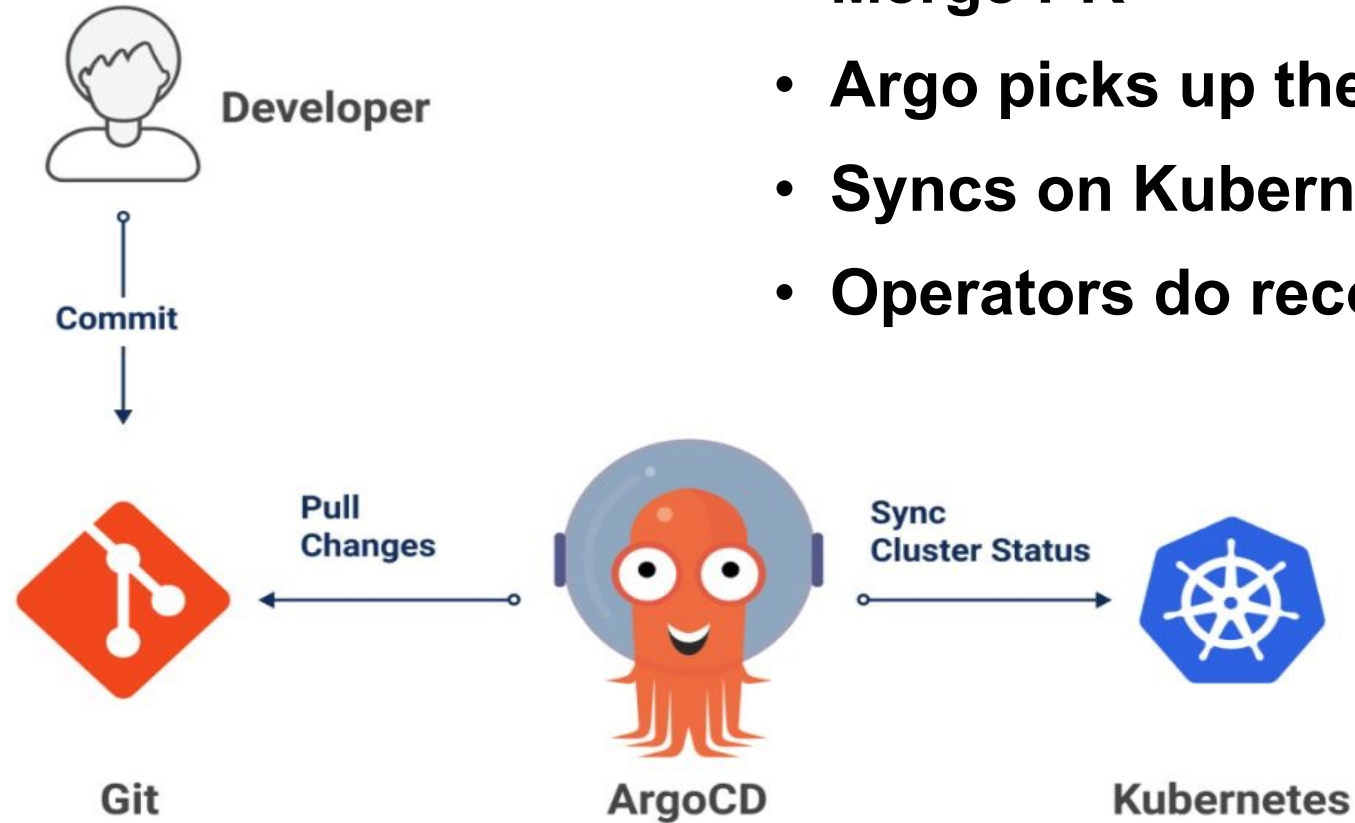


# Argo details





# How it is IaC done at ETH?



- Merge PR
- Argo picks up the change
- Syncs on Kubernetes
- Operators do reconcile.

# Demo

## Get Slurm jobs statistics.

Steps:

1- Gitlab repo with the code.  
(Build and Push)

2- Add the app to Argo Apps in App

HelloWorld("print")



# Disaster scenario

- Partial disaster -> Self healing
- Total Disaster -> re deploy platform, apply manifests in waves.

# Q&A

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