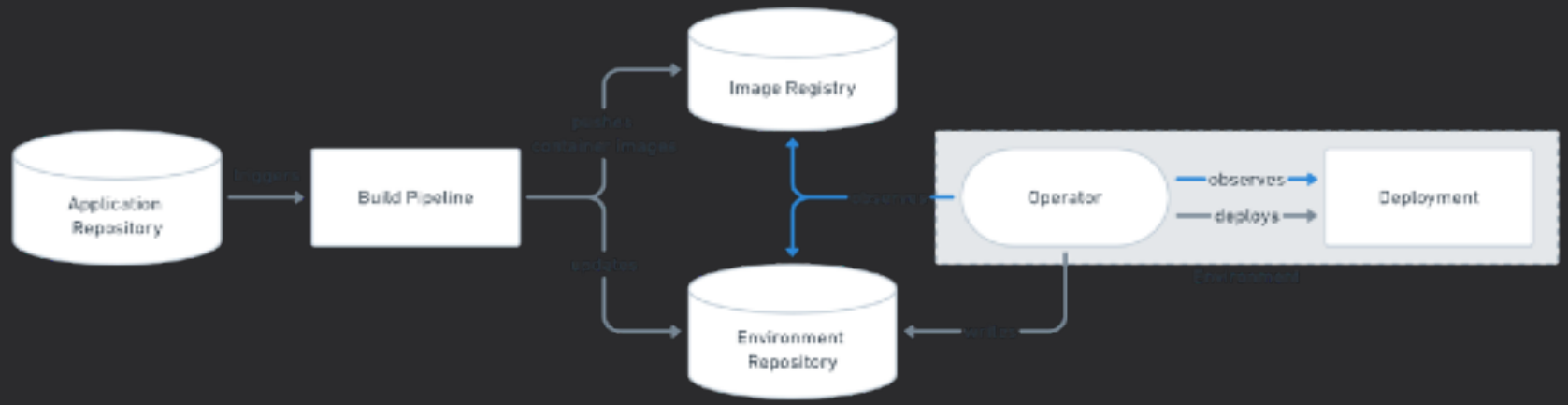
GitOps

As specified by the CNCF

What is GitOps?

GitOps is a set of principles for operating and managing software systems. Under GitOps, the infrastructure and application state are fully represented by the contents of a Git repository. Thus, any changes to the Git repository are reflected in the corresponding state of the associated infrastructure and applications through automation. The desired state of a GitOps managed system must be:

- **Declarative**
  A system managed by GitOps must have its desired state expressed declaratively.
- **Versioned and Immutable**
  Desired state is stored in a way that enforces immutability, versioning and retains a complete version history.
- **Pulled Automatically**
  Software agents automatically pull the desired state declarations from the source.
- **Continuously Reconciled**
  Software agents continuously observe actual system state and attempt to apply the desired state.

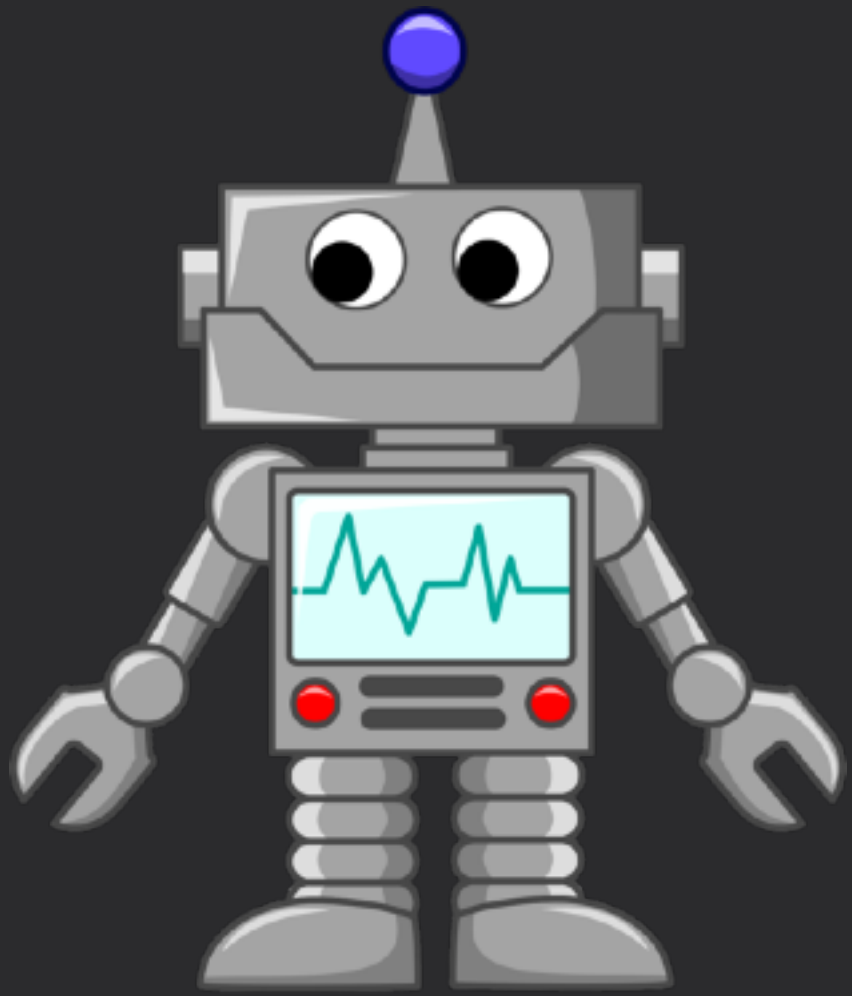


https://github.com/open-gitops/documents
https://www.gitops.tech

Automation First

The Idea

Normalize your automation approach across all of your team's projects. This enables contributors to jump into a project and make contributions quickly, as they only need to learn the automation entry point pattern.



Prefer language native task runners

- Java - maven, gradle
- JavaScript - npm, yarn
- Python - poetry, setup-tools

Fallback to platform native tools

- make, bash, task, powershell, cmd, etc.

Don't forget that about common SCM tasks

- commit hooks are your friend