

INNOQ Technology Lunch

GitOps

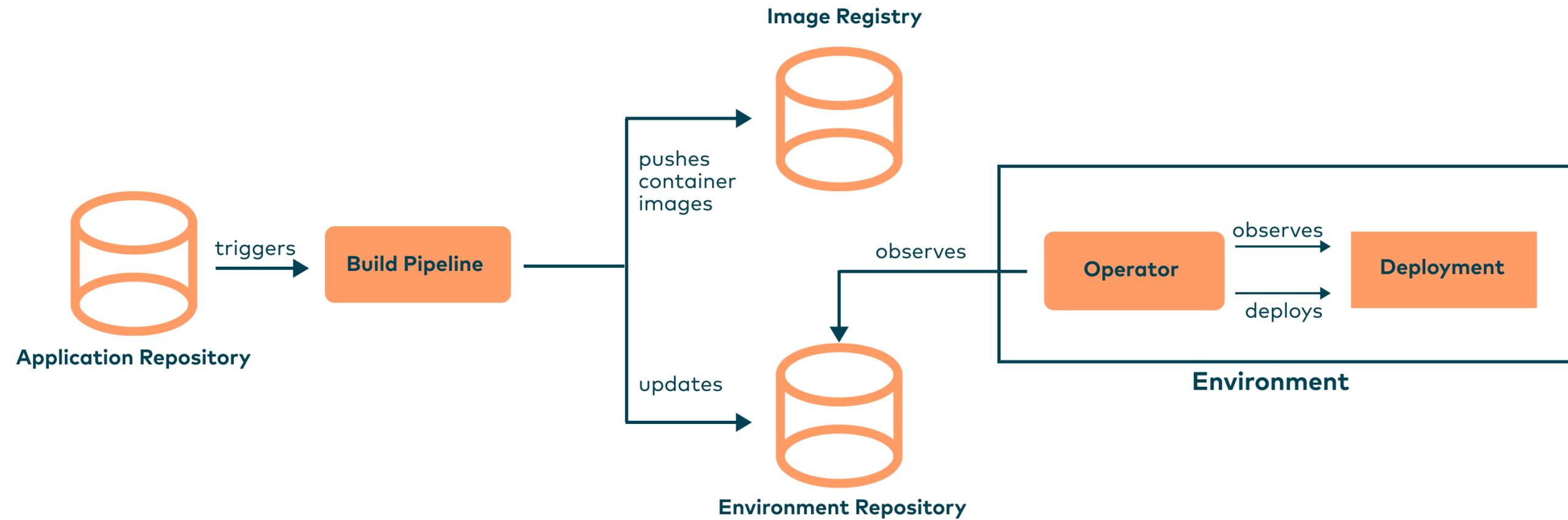
Deployment- und Betriebsstrategie

INNOQ

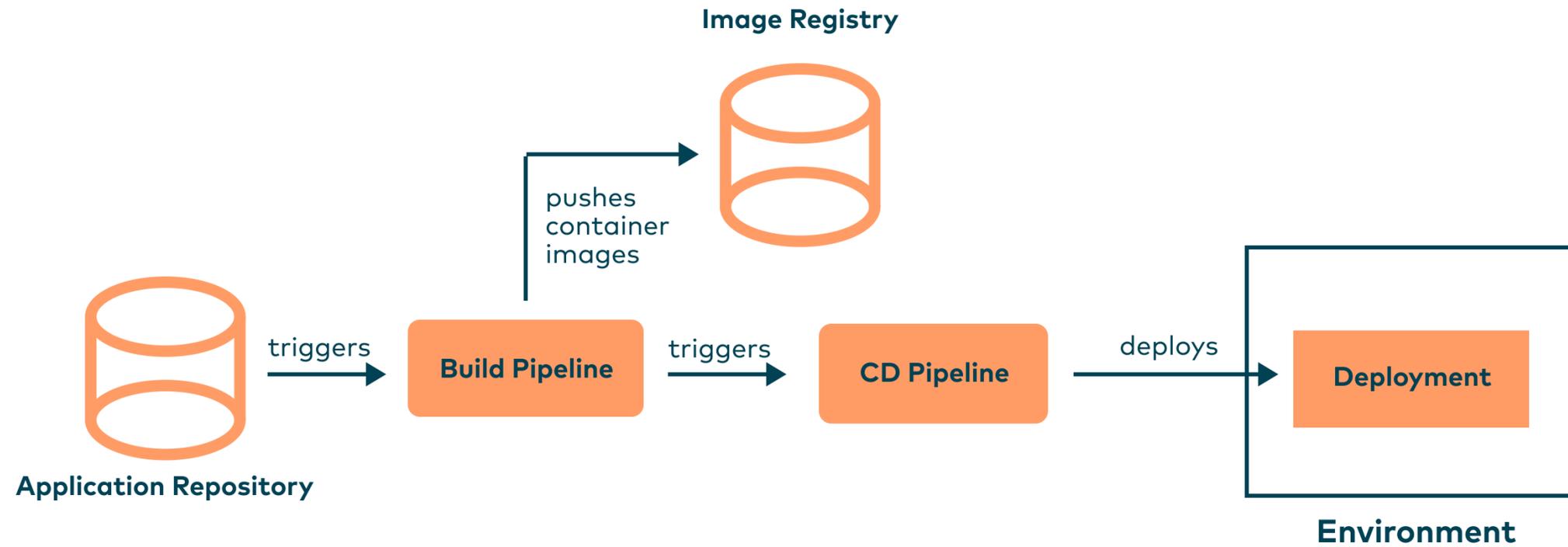


ANJA KAMMER
SENIOR CONSULTANT

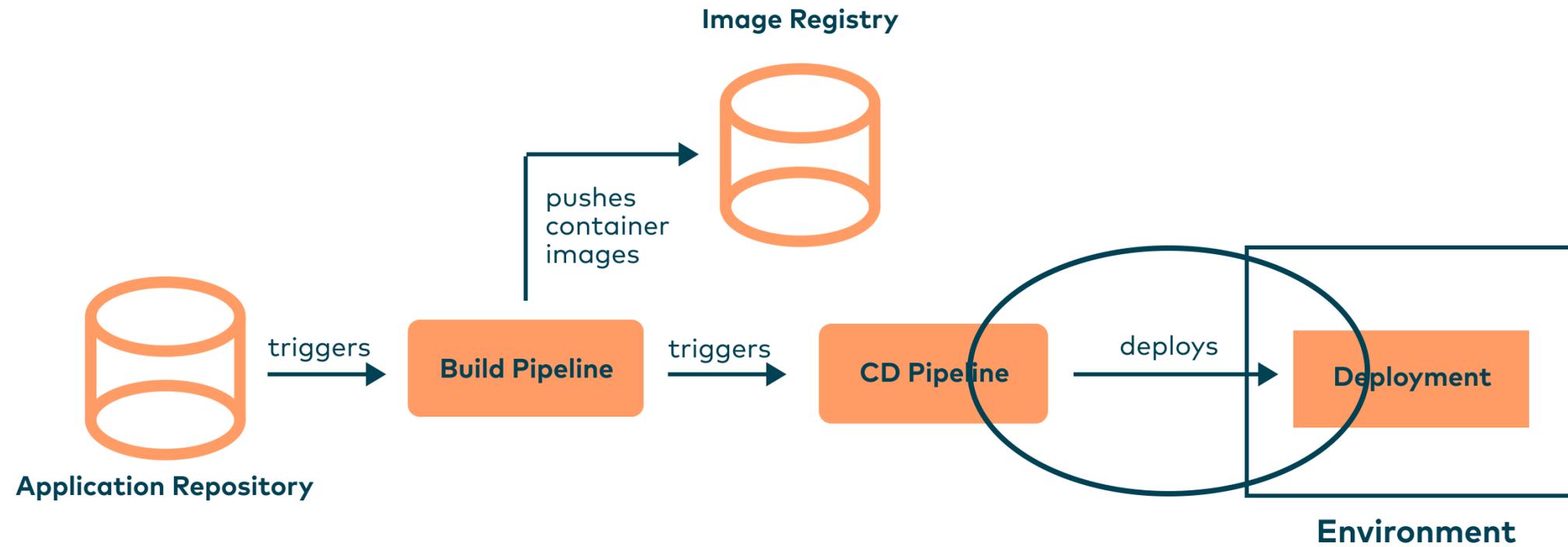
GitOps Workflow



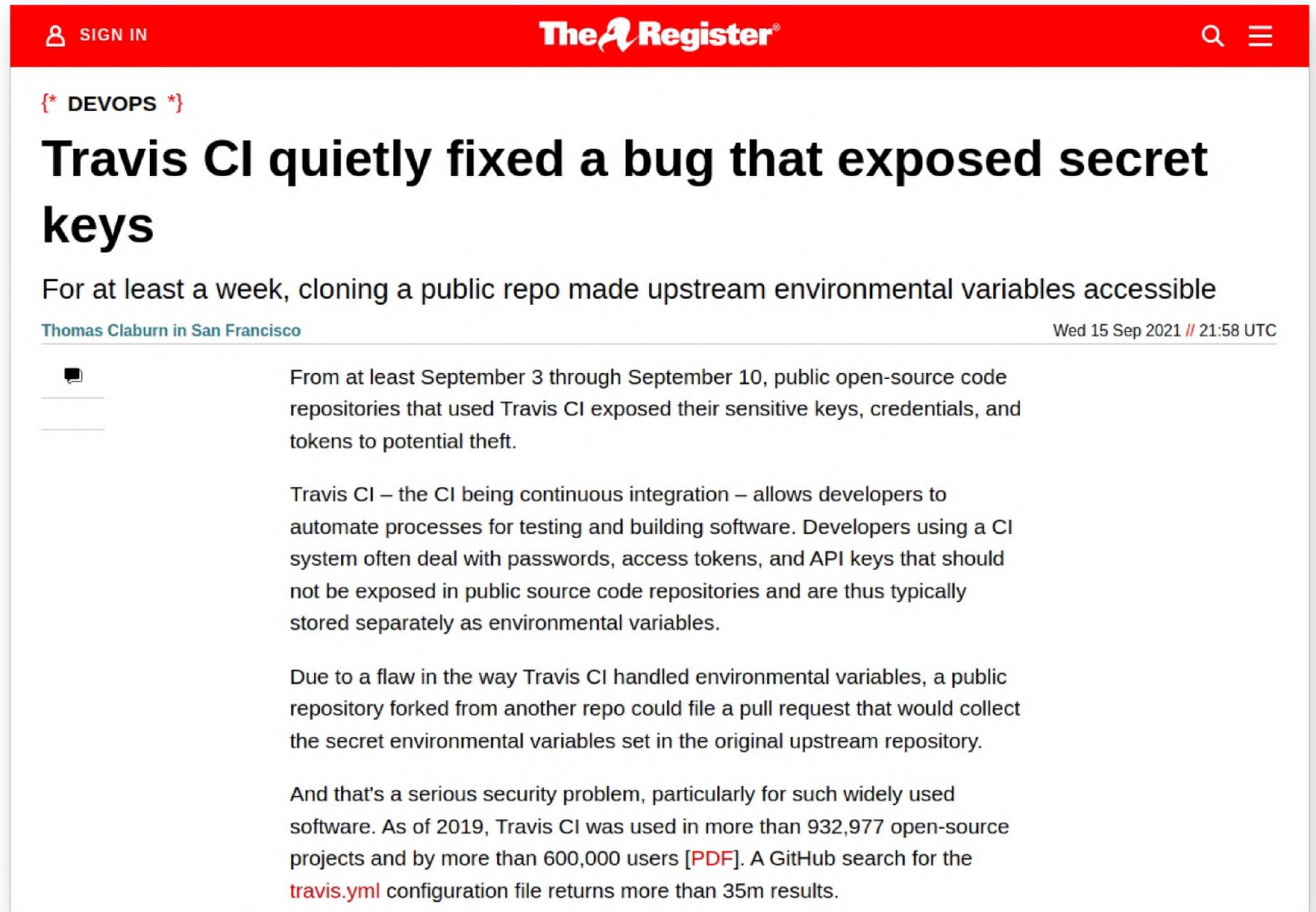
typische CI/CD Workflows



Push-basiertes Deployment



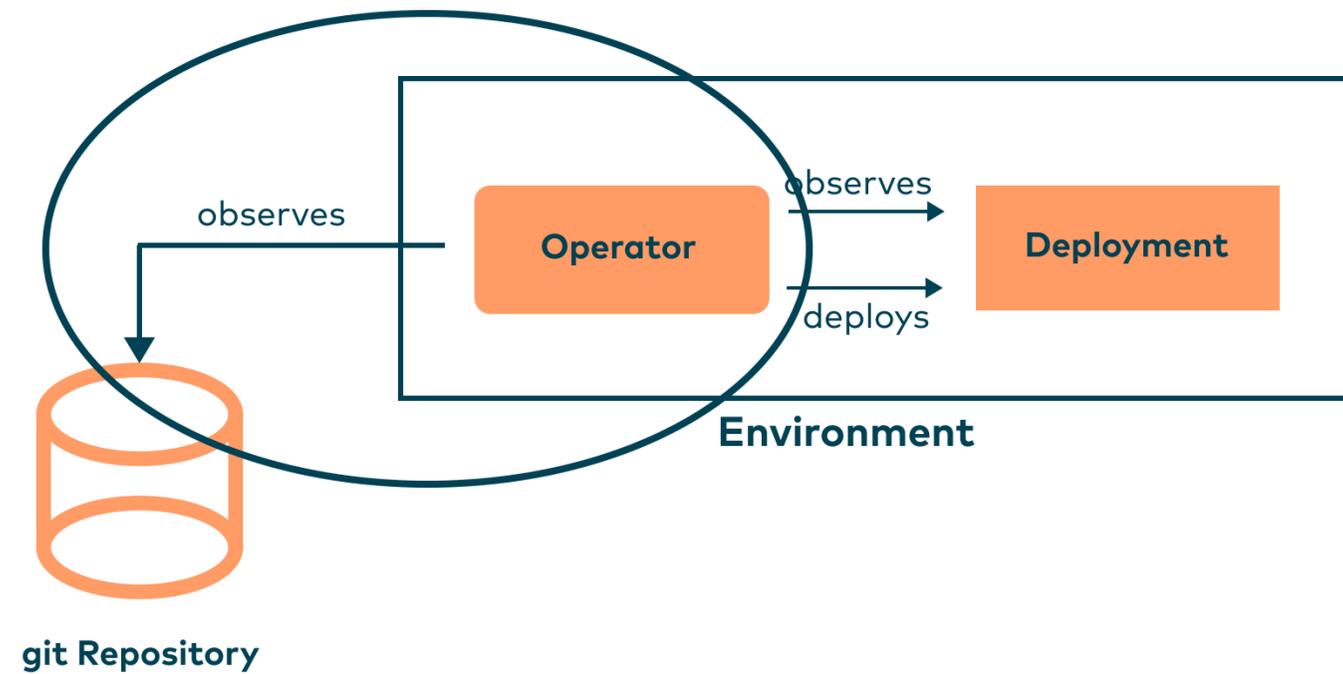
Travis CI Leak



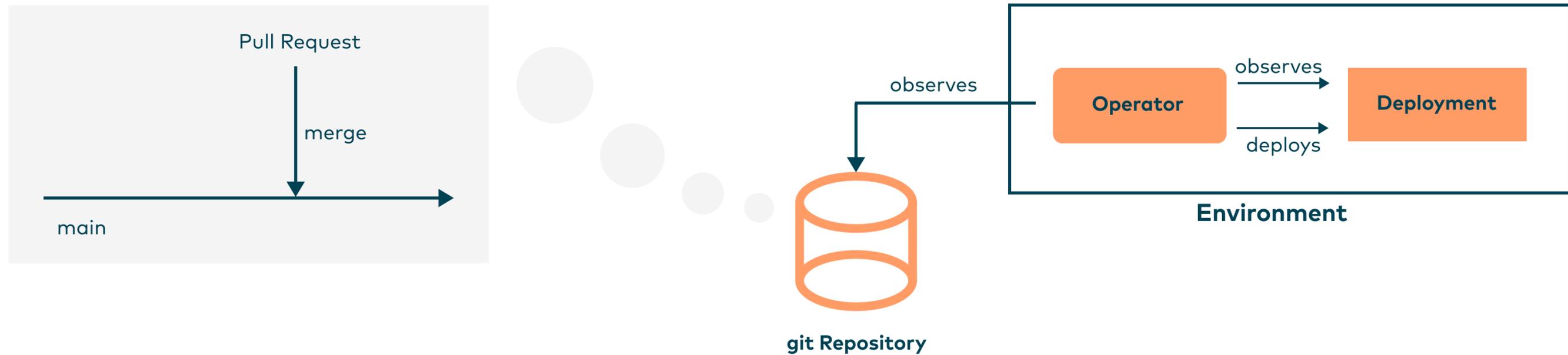
The screenshot shows a news article from The Register. The header is red with 'SIGN IN' on the left, 'The Register' logo in the center, and search and menu icons on the right. Below the header, there is a category tag '{* DEVOPS *}' and the article title 'Travis CI quietly fixed a bug that exposed secret keys'. The subtitle reads 'For at least a week, cloning a public repo made upstream environmental variables accessible'. The author is 'Thomas Claburn in San Francisco' and the date is 'Wed 15 Sep 2021 // 21:58 UTC'. The article text starts with 'From at least September 3 through September 10, public open-source code repositories that used Travis CI exposed their sensitive keys, credentials, and tokens to potential theft.' It then explains that Travis CI allows developers to automate processes for testing and building software, and that developers often deal with passwords, access tokens, and API keys that should not be exposed in public source code repositories. The article concludes that due to a flaw in the way Travis CI handled environmental variables, a public repository forked from another repo could file a pull request that would collect the secret environmental variables set in the original upstream repository. It also mentions that this is a serious security problem, particularly for such widely used software, and that as of 2019, Travis CI was used in more than 932,977 open-source projects and by more than 600,000 users [PDF]. A GitHub search for the `travis.yml` configuration file returns more than 35m results.

Travis CI quietly fixed a bug that exposed secret keys. (2021).
https://www.theregister.com/2021/09/15/travis_ci_leak/

Pull-basiertes Deployment



Pull Requests

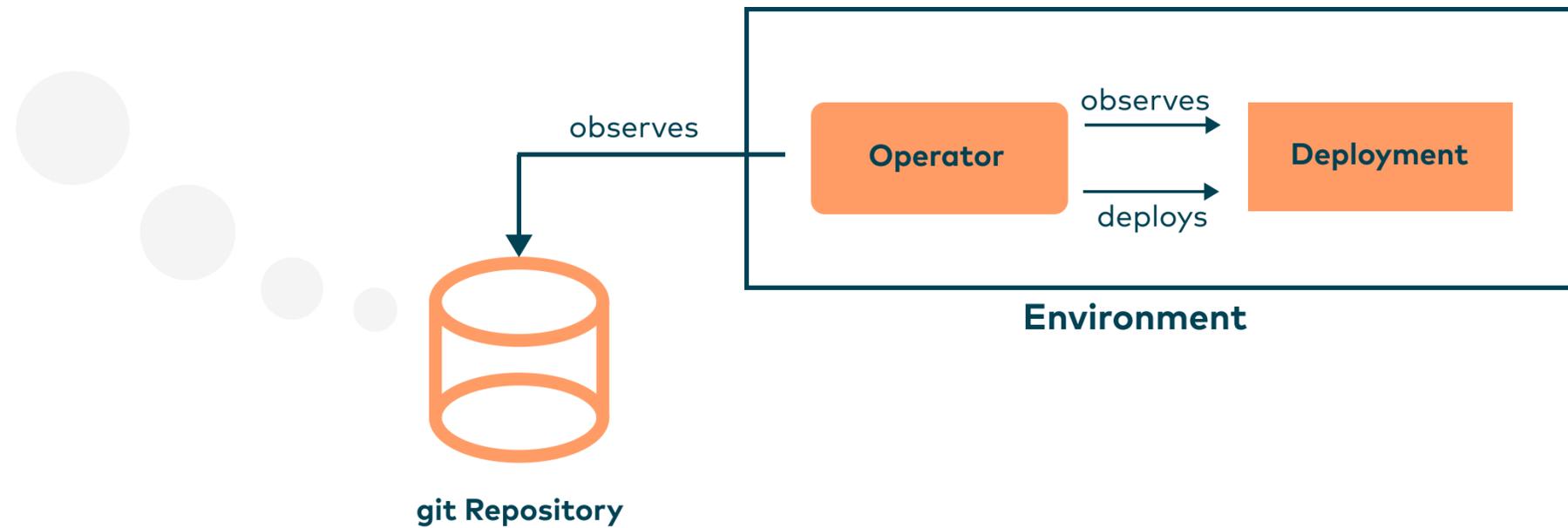


Git Historie

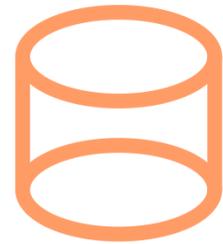
```
$ git log
commit ca82a6dff817ec66f44342007202690a93763949
Author: Scott Chacon <schacon@gee-mail.com>
Date: Mon Mar 17 21:52:11 2008 -0700

    Change version number

commit 085bb3bcb608e1e8451d4b2432f8ecbe6306e7e7
Author: Scott Chacon <schacon@gee-mail.com>
Date: Sat Mar 15 16:40:33 2008 -0700
```

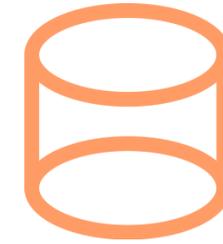


Repositories



Application Repository

- Source Code
- CI Pipeline Konfiguration
- Container Konfiguration

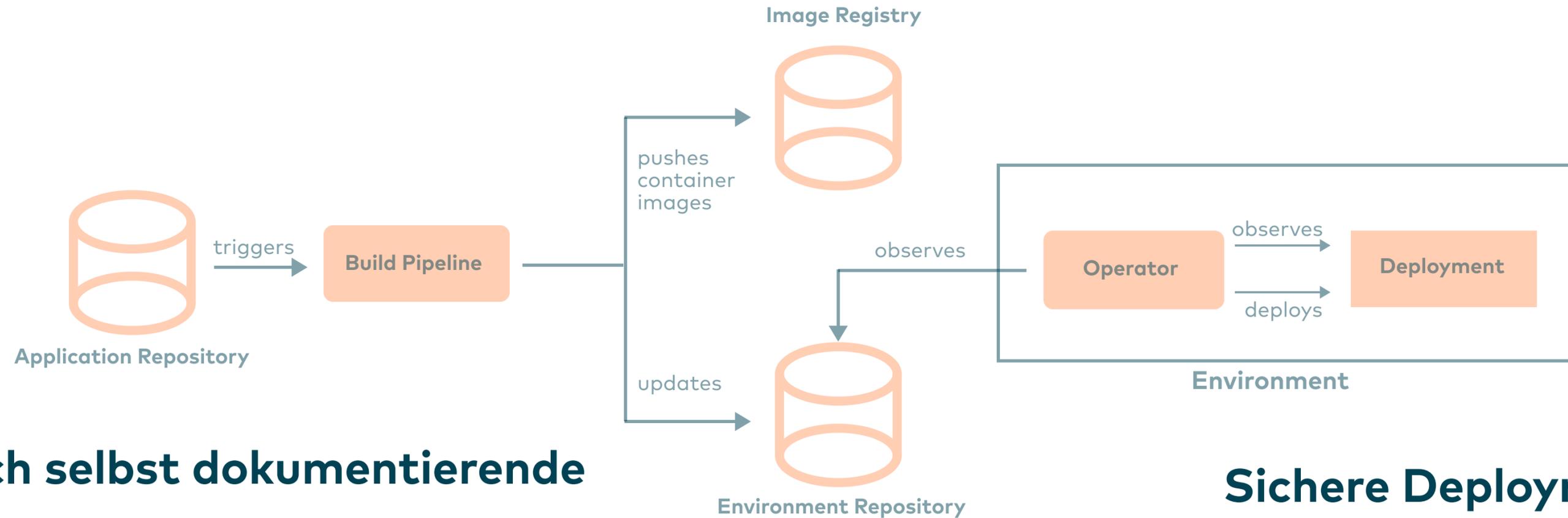


Environment Repository

- Infrastruktur Konfiguration
- CI Pipeline Konfiguration
(Infrastruktur und Integration)

GitOps Workflow

**Leichteres Staffing und
Schnelleres Onboarding**



**Sich selbst dokumentierende
Deployments**

Sichere Deployments

**Einfache und schnelle
Fehlerbehebung**

Missverständnisse

**“GitOps ist auch nur
ein neues Wort für DevOps”**

GitOps

Techn. Implementierung

DevOps

Gründe für CI/CD

GitOps

Techn. Implementierung
Konkreter Prozess

DevOps

Gründe für CI/CD
Kultur und Methoden

**"GitOps ist auch nur
Infrastructure-as-Code"**

"A key part of GitOps is the idea of *environments-as-code*: describing your deployments declaratively using files (for example, Kubernetes manifests) stored in a Git repository. "

Environment as Code

Ausführung durch Operator

Infrastructure as Code

autom. Ausführung

**“Es sind GitOps Tools
(für Kubernetes) nötig”**

Plattform X

selbstgebafter Operator

Kubernetes

k8s-native GitOps Tools

**“GitOps ist auch nur eine
bessere Deployment-Pipeline”**

GitOps

git Tool

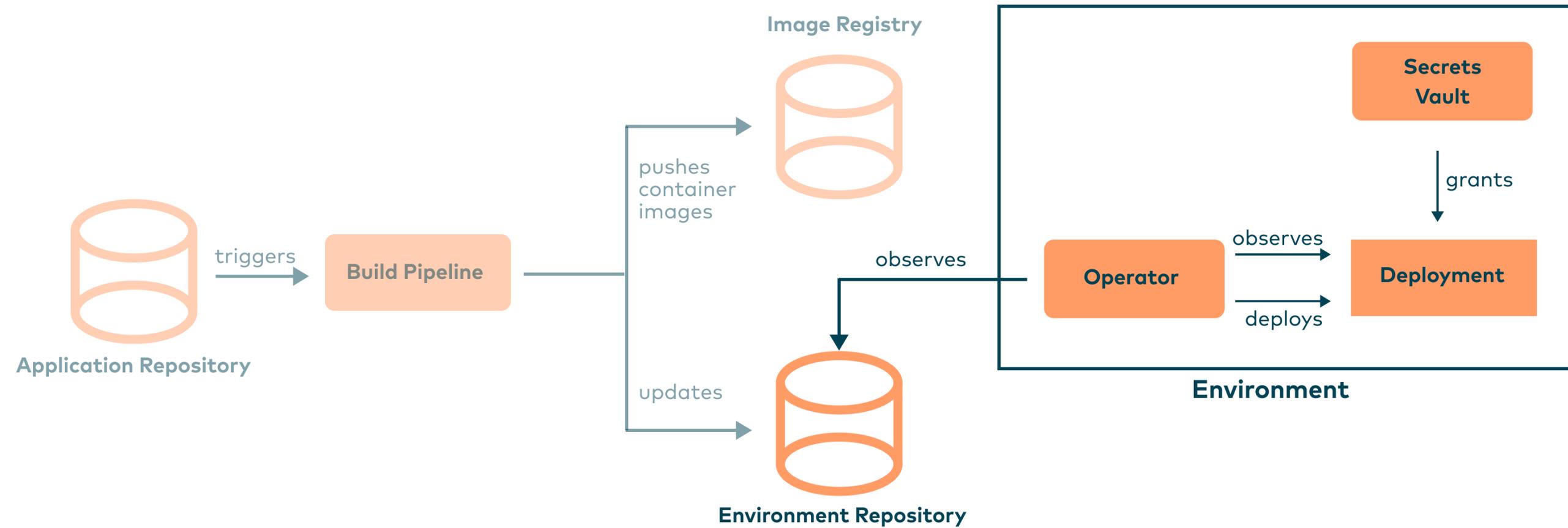
CI/CD

separates Tool

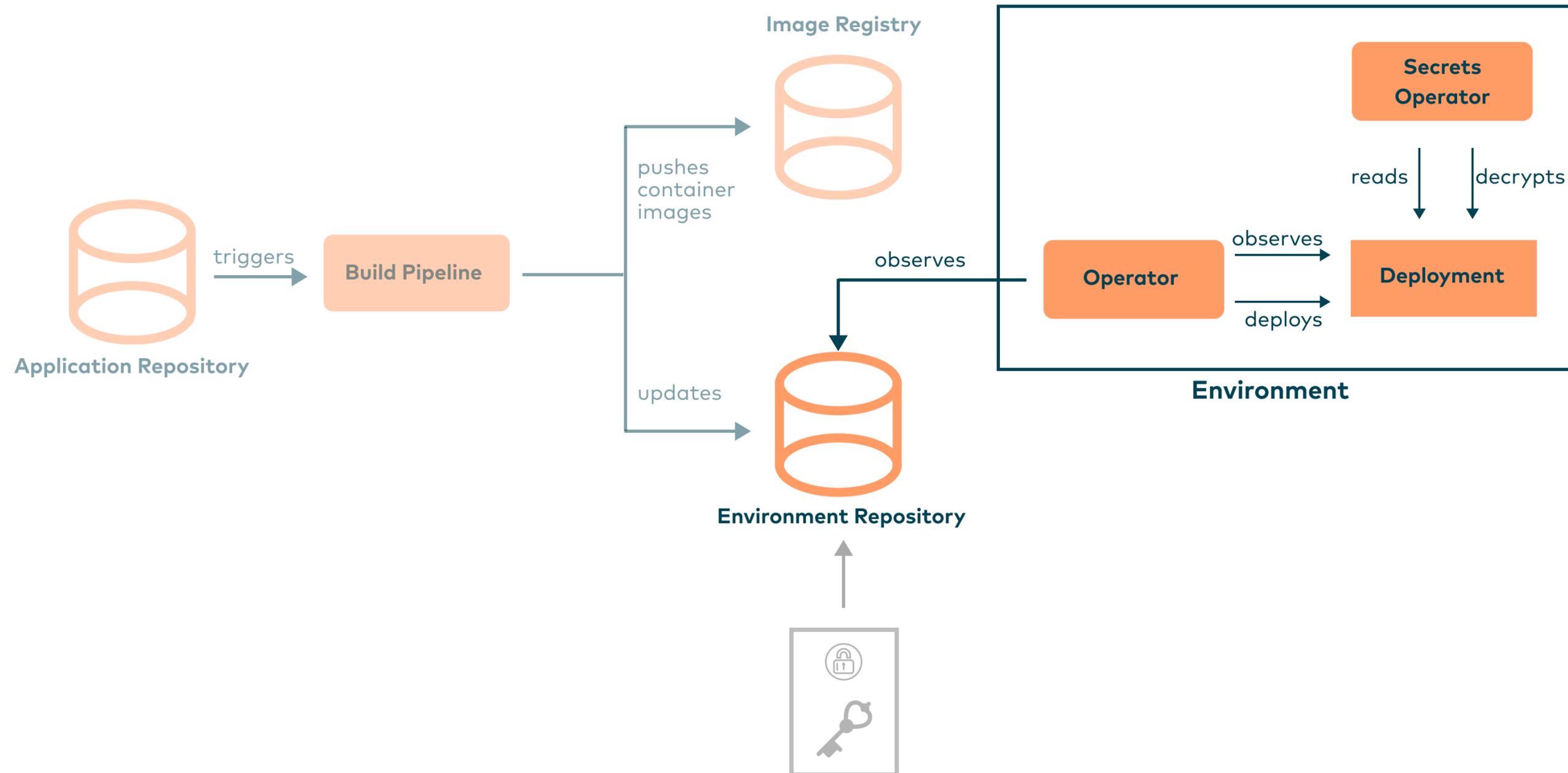
Fallstricke

**Secrets Management
ist nicht enthalten**

Secrets Vault

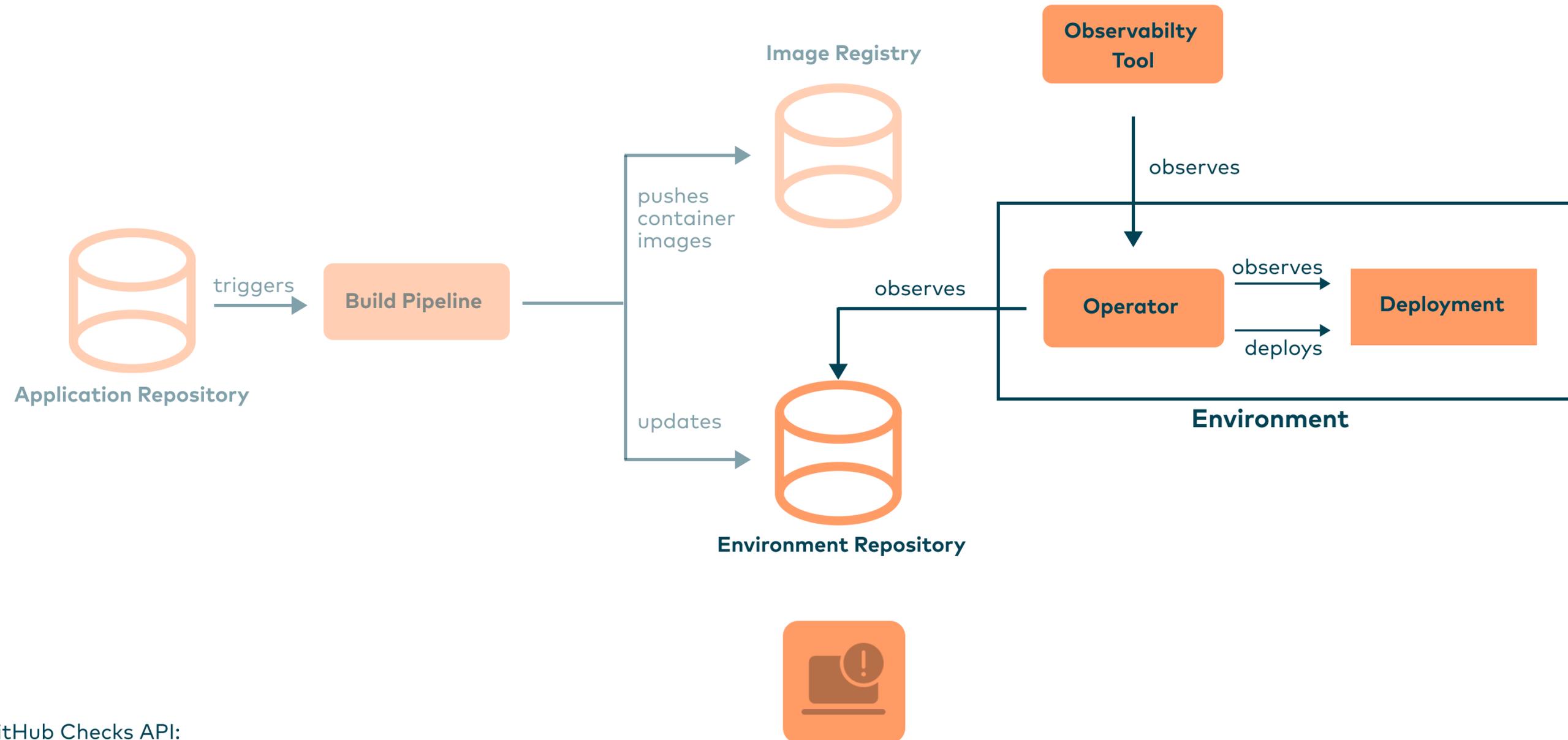


Secrets Operator



Die Pipeline ist weniger rot

Observability

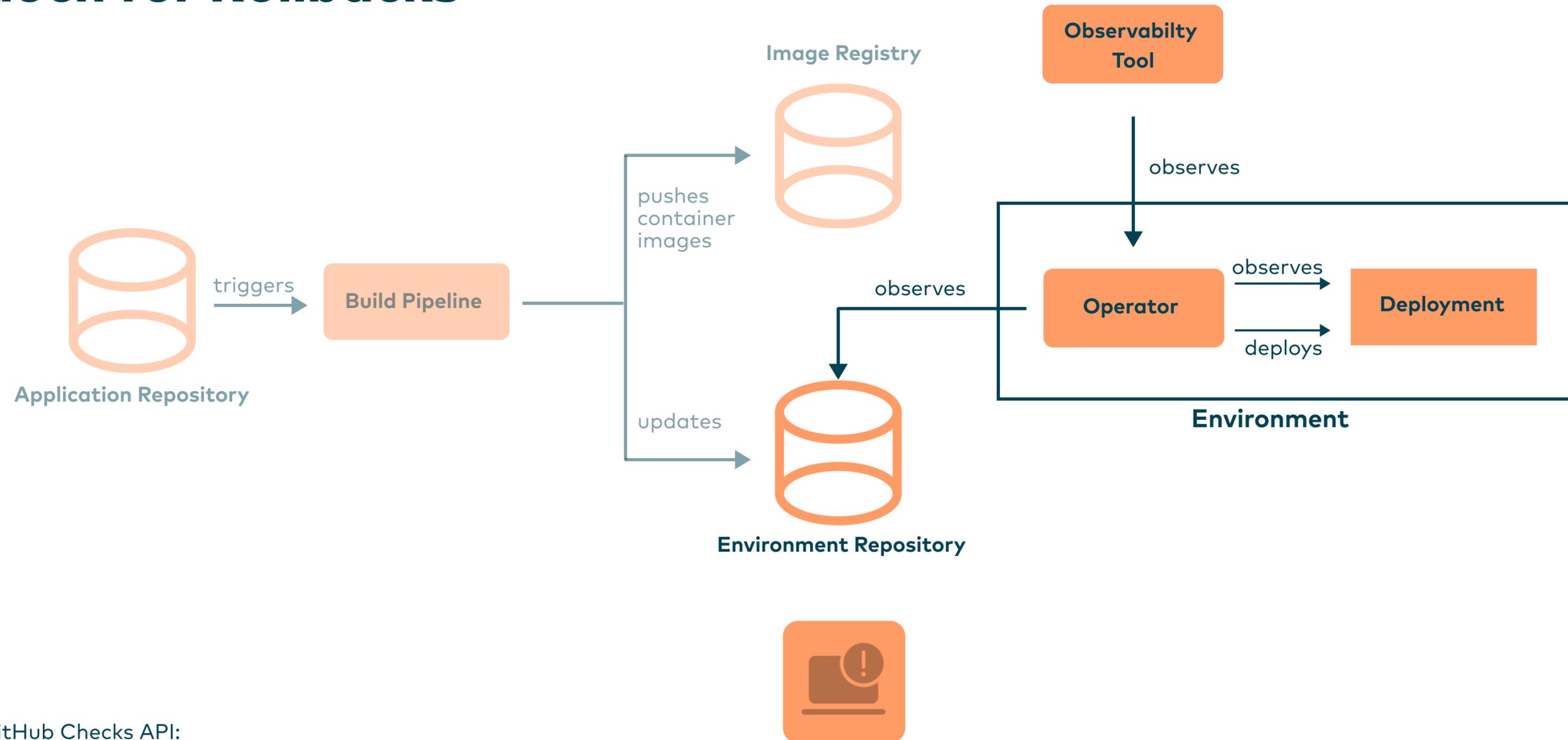


GitHub Checks API:
<https://docs.github.com/en/rest/reference/checks>

Bi-direktionales Rollback

Observability

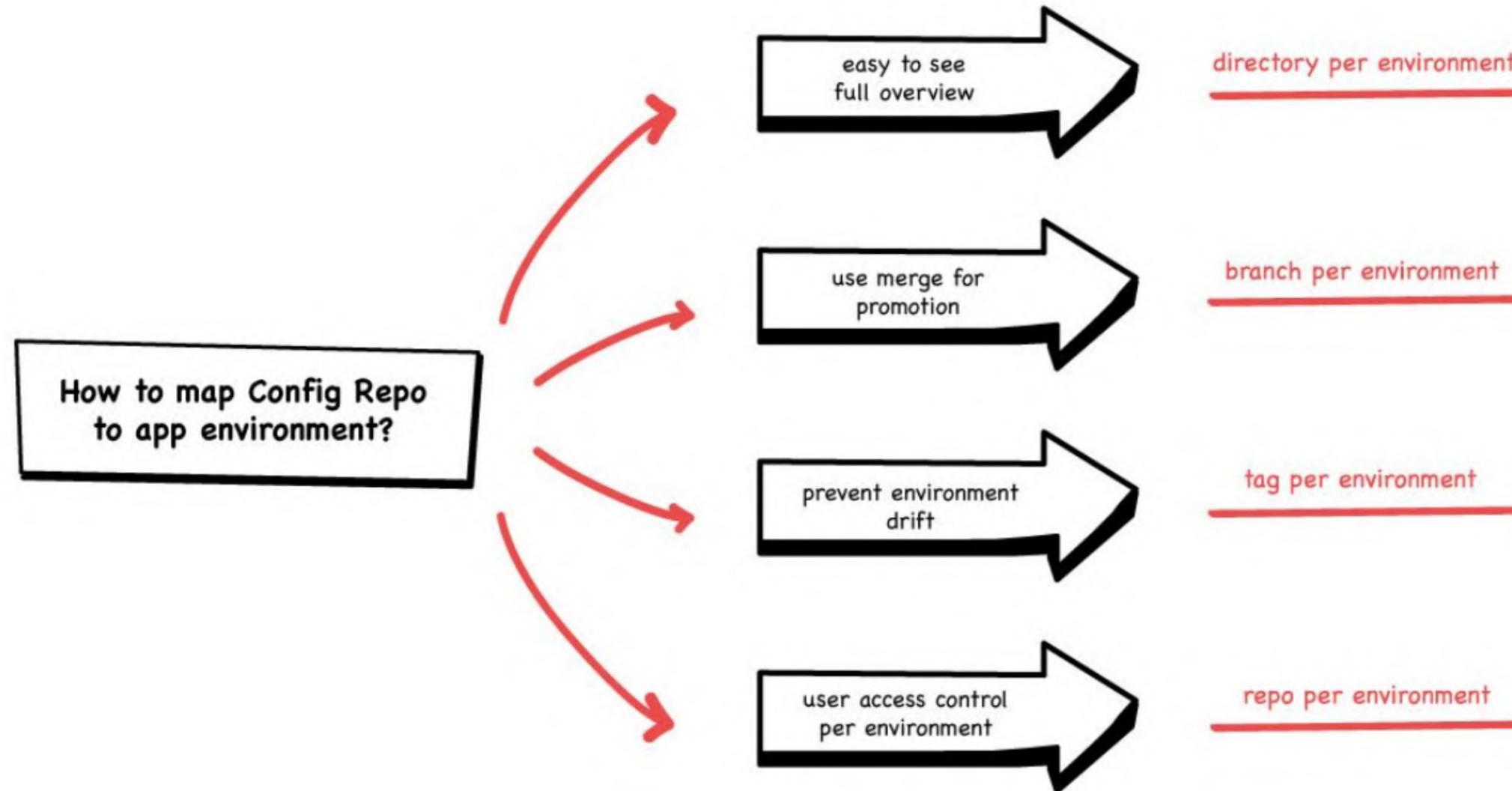
auch für Rollbacks



GitHub Checks API:
<https://docs.github.com/en/rest/reference/checks>

Abbildung multipler Stages

Promotion



Wohin mit den Deployment Manifesten?

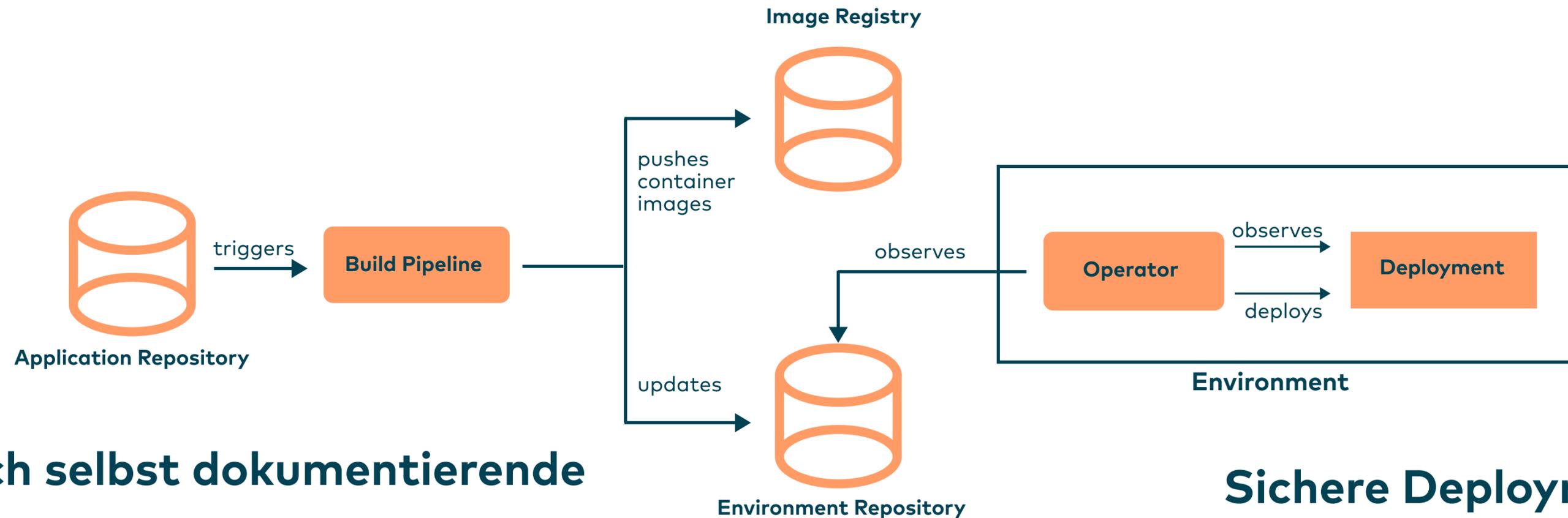
Referenzen

```
apiVersion: source.toolkit.fluxcd.io/v1beta1
kind: GitRepository
metadata:
  name: podinfo
  namespace: default
spec:
  interval: 1m
  url: https://github.com/stefanprodan/podinfo
  ref:
    branch: master
```

Fazit

GitOps Workflow

**Leichteres Staffing und
Schnelleres Onboarding**



**Sich selbst dokumentierende
Deployments**

Sichere Deployments

**Einfache und schnelle
Fehlerbehebung**

Empfehlungen



Sascha Selzer

GitOps mit ArgoCD

INNOQ TECHNOLOGY LUNCH

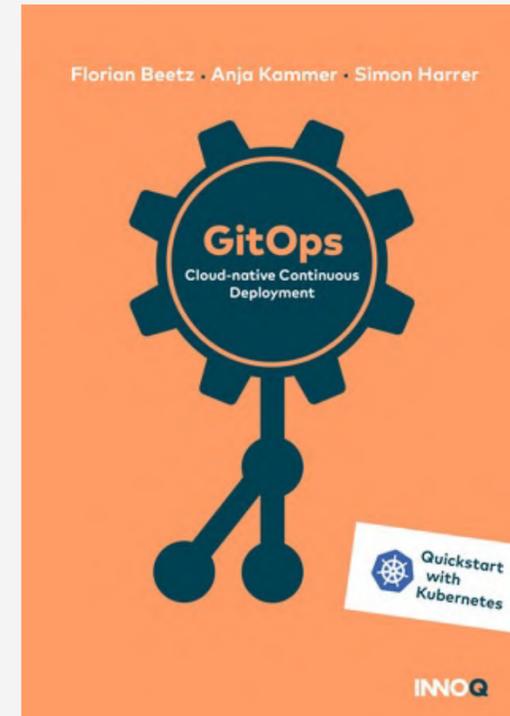
51:41

GitOps mit ArgoCD – INNOQ Technology Lunch

728 Aufrufe • vor 8 Monaten gestreamt

INNOQ

Irgendwann ist man soweit. Irgendwann hat man seine große Applikation in viele Microservices zerlegt, in...



Florian Beetz · Anja Kammer · Simon Harrer

GitOps

Cloud-native Continuous Deployment

Quickstart with Kubernetes

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