

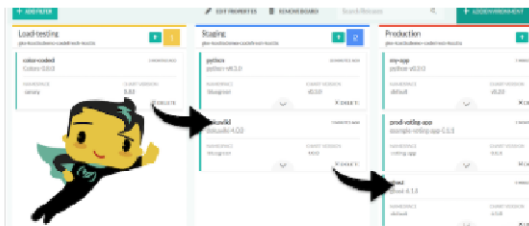


Hybrid CI/CD

with Kubernetes and Codefresh

KOSTIS KAPELONIS

About Kostis Kapelonis

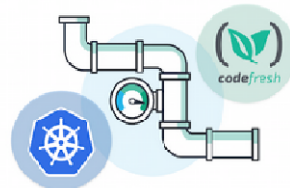


Helm Tutorial | February 7, 2019

Using a Kanban board to manage and promote Helm Releases



Kostis Kapelonis

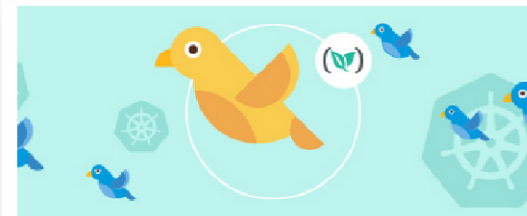


Continuous Integration | September 11, 2018

Programmatic Creation of Codefresh Pipelines - Part 1



Kostis Kapelonis

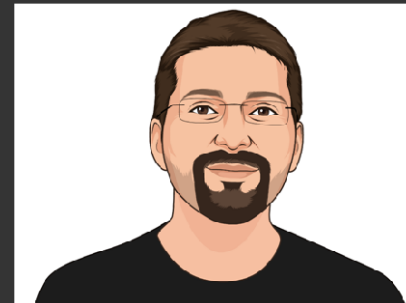


Continuous Deployment/Delivery | August 30, 2018

Fully automated canary deployments in Kubernetes

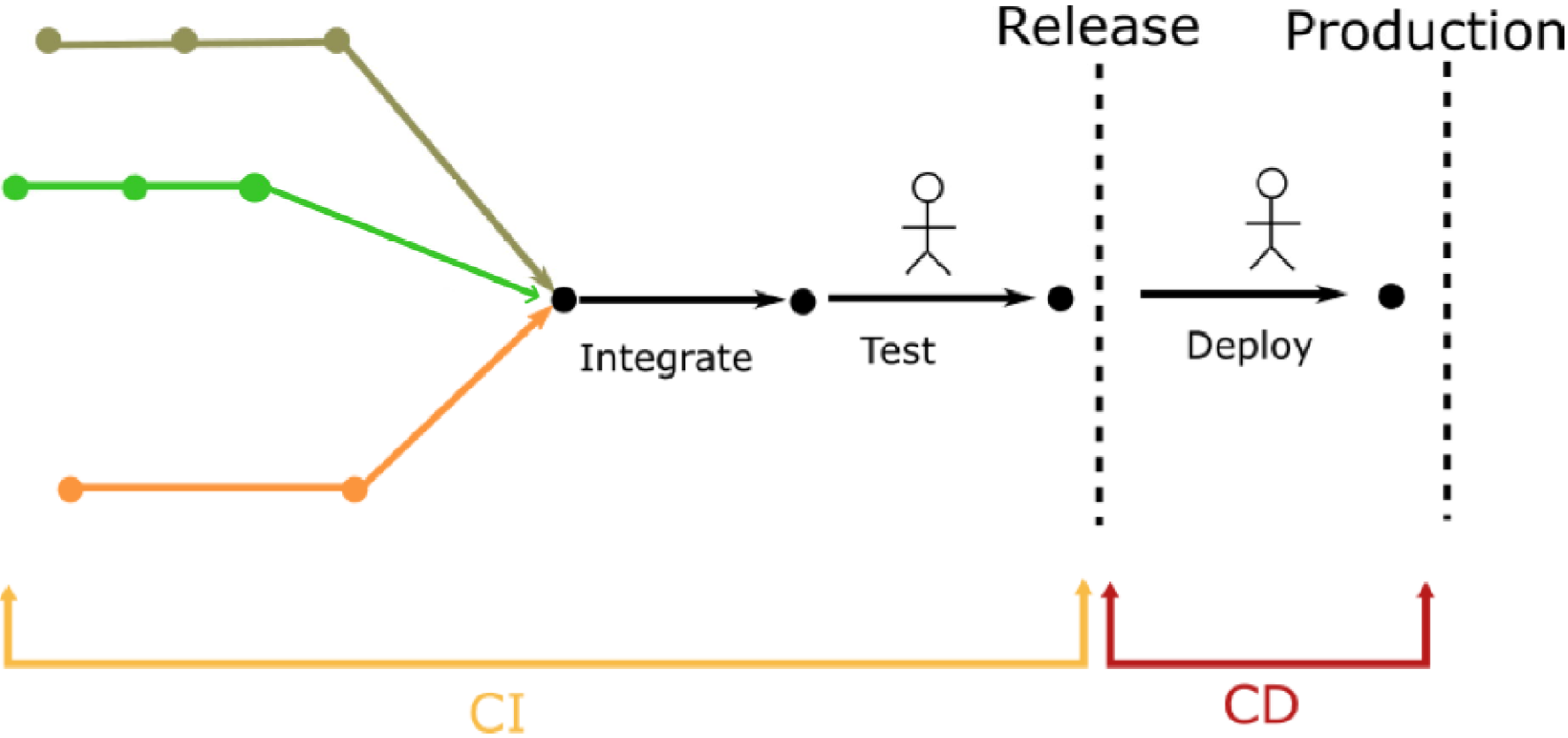


Kostis Kapelonis



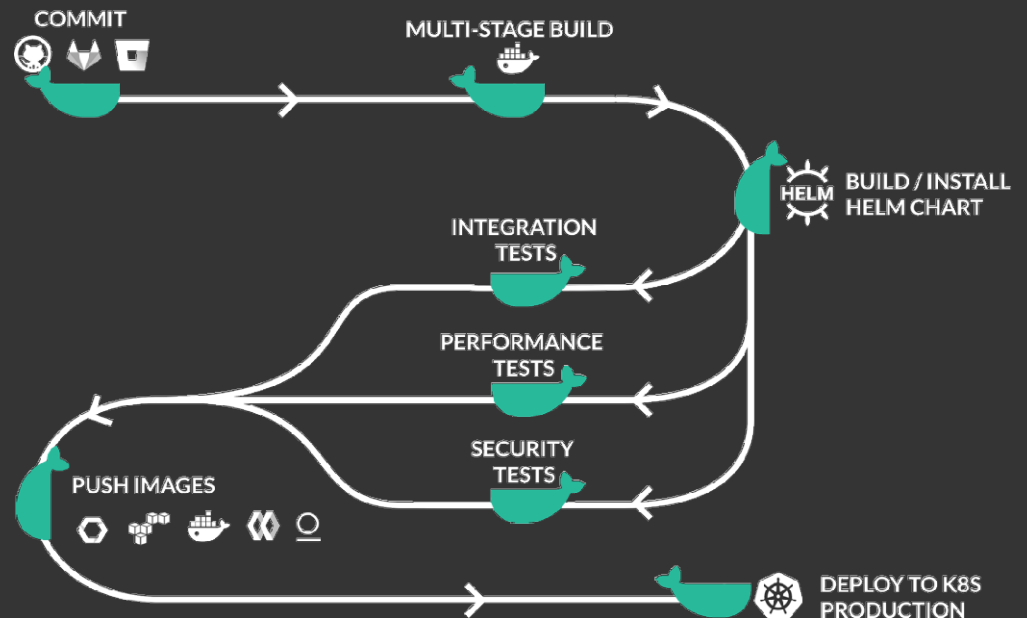
Continuous Integration/Delivery

The Basic Software Lifecycle



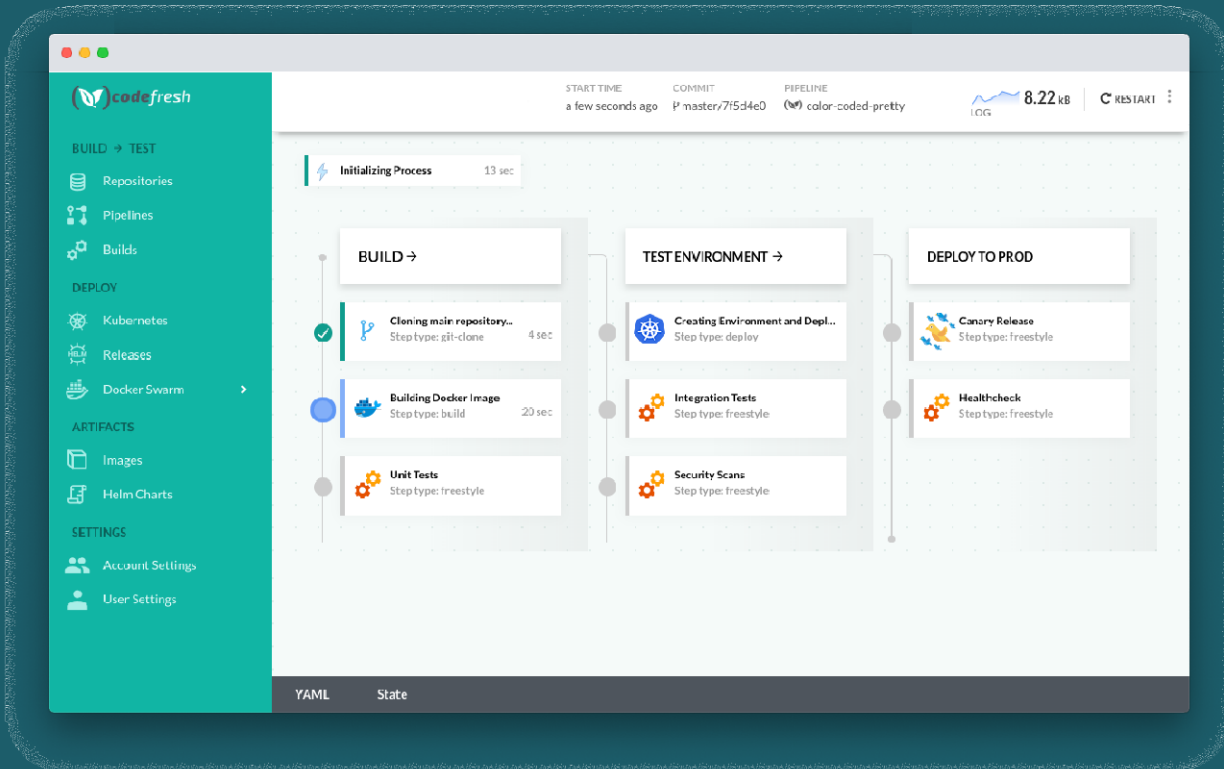
In Codefresh every step is a docker image

- Natively runs and scales on Kubernetes
- Support for Kubernetes/Helm deployments
- Complete code to cloud traceability



Codefresh SAAS

- Intuitive UI
- Web API and CLI
- Integrated GCR and Helm repo



iStreamPlanet

ARM

GIPHY

Hewlett Packard Enterprise

instal

eventure

Gladly

Hippo

LE FIGARO

Steelcase

FIT2YOU

SKYWIND GROUP

STEELHOUSE ADVERTISING SUITE

G5

JOANY

snaproute

GFite

inmar

FORGEROCK

“Our developers can commit and deploy within 10 minutes. Individuals can come up with a feature, add it, test it and ship it quickly”

Klick

reduxio

octadesk

Agilysys

Stampli

ironSource

RYZE

parkhub

Stem

METABOLIC

MYANT

SILVERRAIL

QUANTUM CLINIC

ELEGANT MONKEYS

FXEMPIRE

MEHILÄINEN

gazoombile

PAYMENT APPROVED




nextpro

nudj

buildup

GIPHY
CODEFRESH.IO/CASE-STUDIES

Codefresh installation options

 Cloud	 Hybrid	 On Premise
<ul style="list-style-type: none">→ Managed by Codefresh→ Access to public services→ Everything runs on Codefresh cloud→ Automatic product updates	<ul style="list-style-type: none">→ Managed by Codefresh/Customer→ Access to secure services→ Pipelines run on private cloud→ Automatic product updates	<ul style="list-style-type: none">→ Managed by Customer→ Access to secure services→ Everything runs on private cloud→ Scheduled product updates

Customers with security constraints

- Financial/Health sector
- Secure services
- Strict firewall rules
- On-premise resources
- Not on public clouds by design



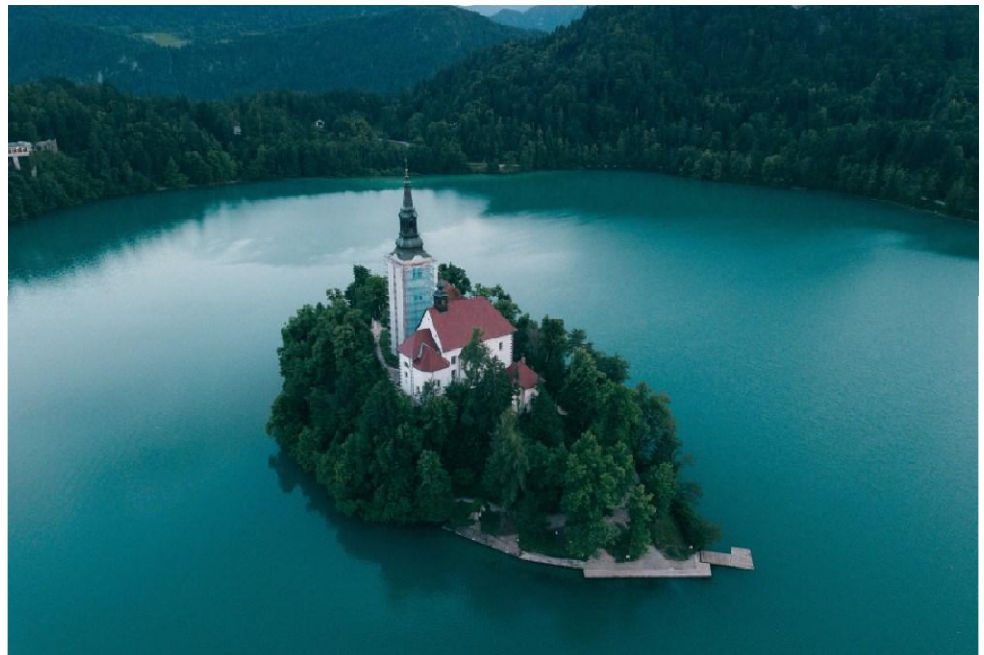
On premise source code

- Often considered the most sensitive asset
- On premise Github
- On premise Gitlab
- On premise Bitbucket server
- Other providers (.e.g. Perforce)



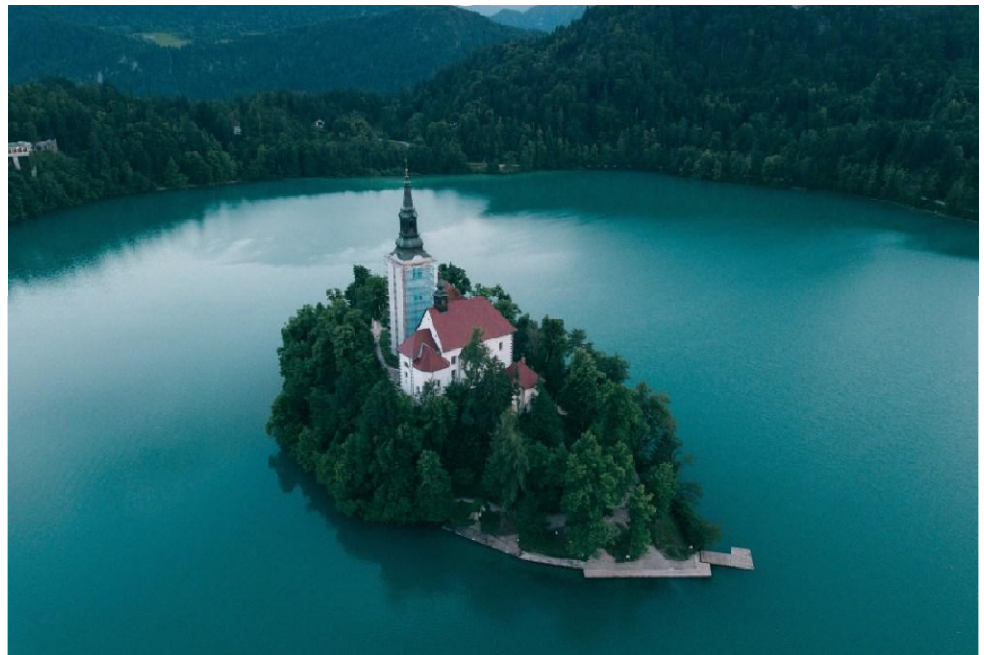
On premise Docker images

- Private images with dev tools
- Private images for secure deployments
- Promotion between registries
- Often mixture of public and private registries



On premise Kubernetes clusters

- K8s for on-premise datacenters
- Often clusters are for internal use only
- Clusters with intermittent network access



Customers that choose Hybrid CI/CD

Scale

Use Kubernetes native scaling

Secure

Access to internal services behind firewall

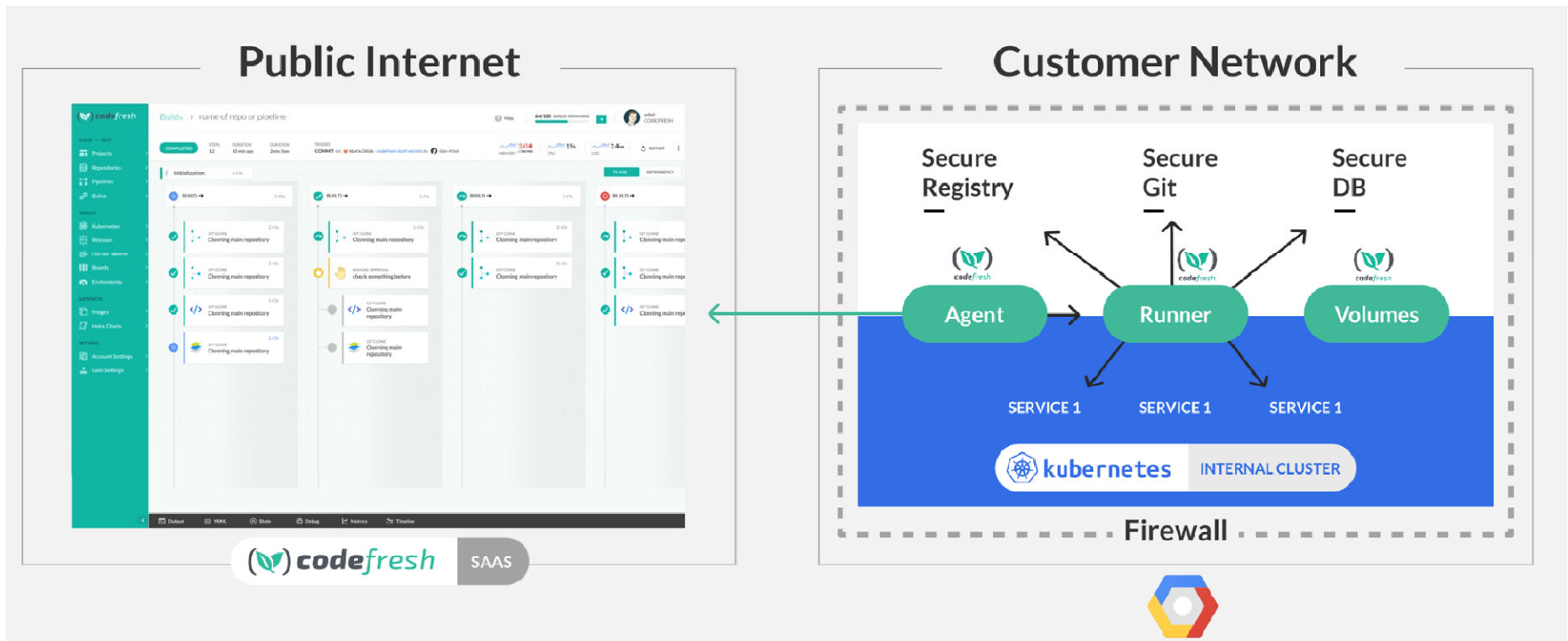


Manage

No need to to maintain the whole platform

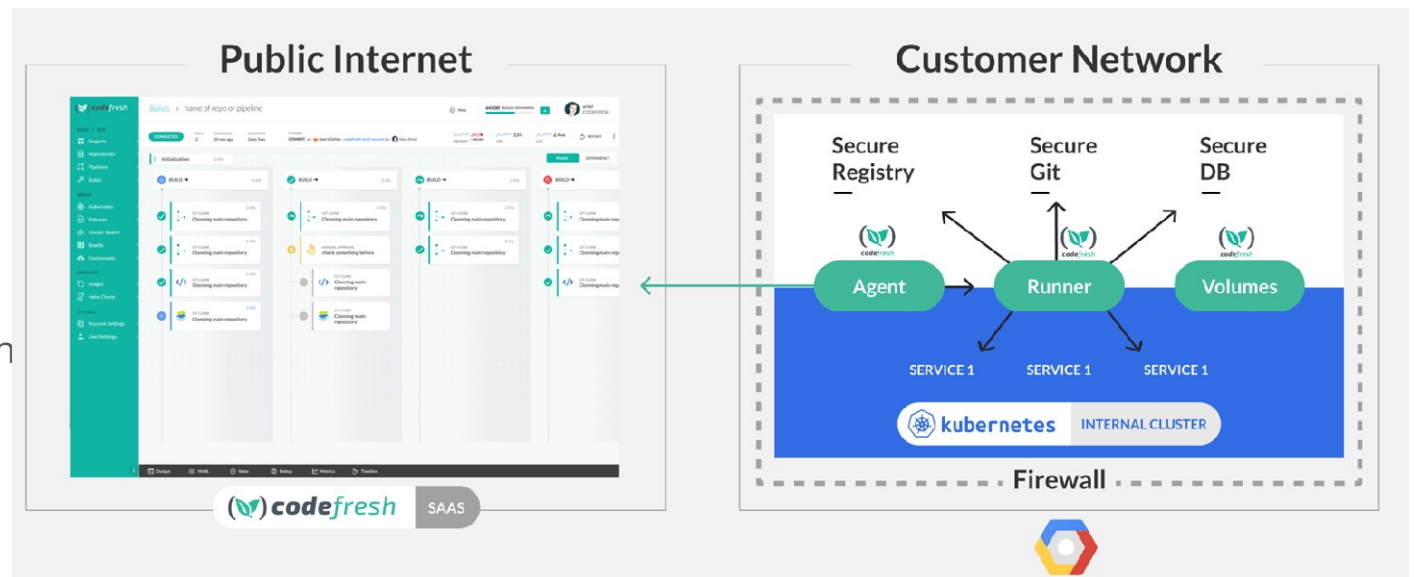
Codefresh Hybrid Runner

Codefresh Hybrid Runner



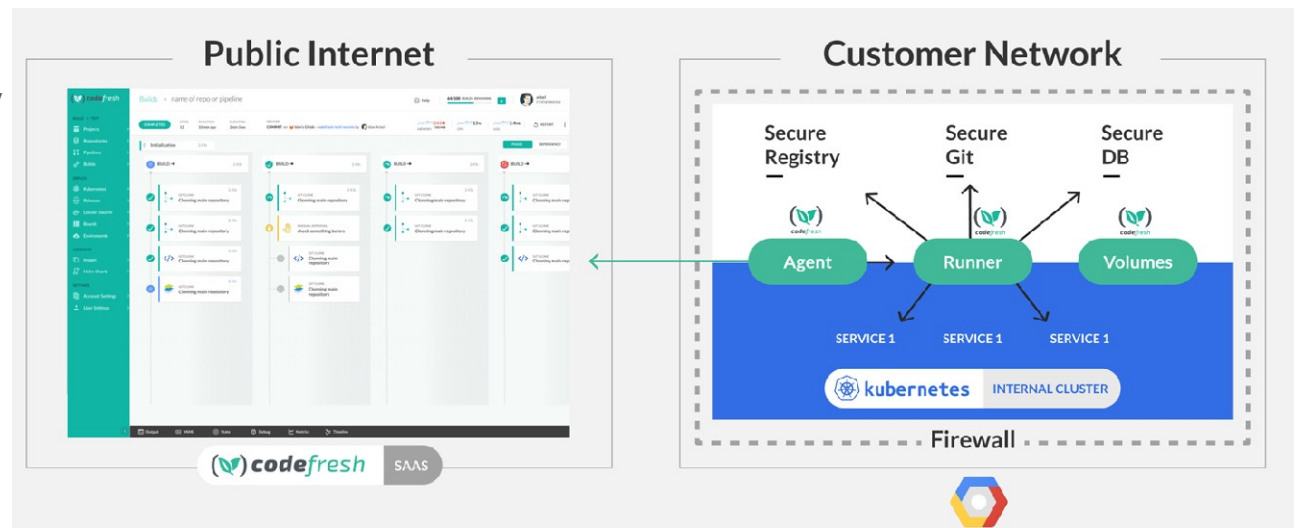
Codefresh Hybrid Runner characteristics

- Runs on Kubernetes
- Open-source installer
- Uni-directional communication
- Runner polls Codefresh
- No open ports needed



Codefresh Hybrid Runner lifecycle

- Fully independent
- Deploys engine automatically
- Manages pipeline volumes
- Standard Kubernetes
- Easy monitoring
- Easy upgrades
- Easy scaling
- Multiple runtimes



Google Cloud Platform Select a project

Codefresh

Tag: 1

Codefresh

Codefresh is the first continuous delivery platform built for Kubernetes

CONFIGURE PURCHASE PLAN

Type
Kubernetes apps

Last updated
3/6/19

Category
Developer stacks
Developer tools

Repository path
marketplace.gcp.io/codefresh-gke/codefresh

Container images
1

Overview

Codefresh is a leading CI/CD platform for Micro Service based applications and containers with advanced Continuous Delivery capabilities on top of Kubernetes. Codefresh helps accelerate customer's adoption of containers, offload the immense work invested to create in-house solutions and maintaining them with a solution that offers unlimited scale and reliability, using easy to customize pipeline's templates, configuration and secret management to build, test, deploy.

[Learn more](#)

About Codefresh

Build, test, spin-up, and deploy Docker images with Codefresh, a container-native platform for working with images. Includes CI, CD, Image Management, and Hosted Staging Environments. Codefresh is tightly integrated with Google Kubernetes Engine to streamline deployment.

<https://console.cloud.google.com/marketplace/details/codefresh-gke/codefresh>

Hybrid CI/CD with Codefresh

Runtime environments

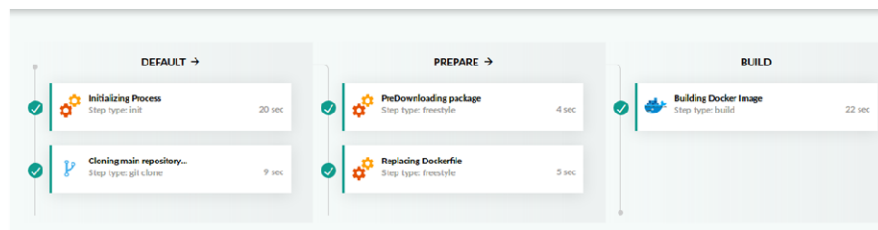
- Multiple Hybrid runners
- Customer can select any cluster
- Assign runtime to each pipeline
- Custom cloud environments
- On-premise environments
- Mix and match

Codefresh-io/catalog > catalog

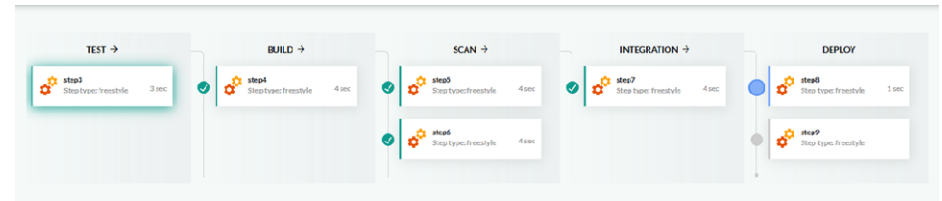
The screenshot shows the 'Settings' page for a pipeline in the Codefresh catalog. The page has three tabs: 'WORKFLOW', 'SETTINGS' (which is active), and 'BUILDS'. Below the tabs, the title 'Settings' is followed by the subtitle 'manage your pipeline's general settings'. A dropdown menu is open, showing a list of runtime environments. Each entry consists of a bolded name and a descriptive text. At the bottom of the page, there are two buttons: 'SAVE' and 'RUN'.

Runtime Environment	Description
system/arm/codefresh-io/testing	test RE for ARM images with tag master for arm on codefresh inc
system/arm/codefresh-io	Runtime env for building codefresh images for arm on codefresh-inc
system/dind-daemon-user-access	This is an RE for providing dind daemon access to trusted users on their request
ent-2/codefresh-inc	Runtime environment configure to cluster: ent-2 and namespace: codefresh-inc
docker-desktop/olegv-local	Runtime environment configure to cluster: docker-desktop and namespace: olegv-local
olegv-venona-testing/olegv-azure	

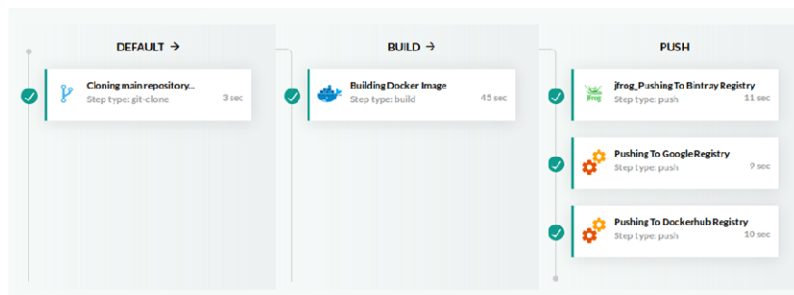
Full control on pipeline environment location



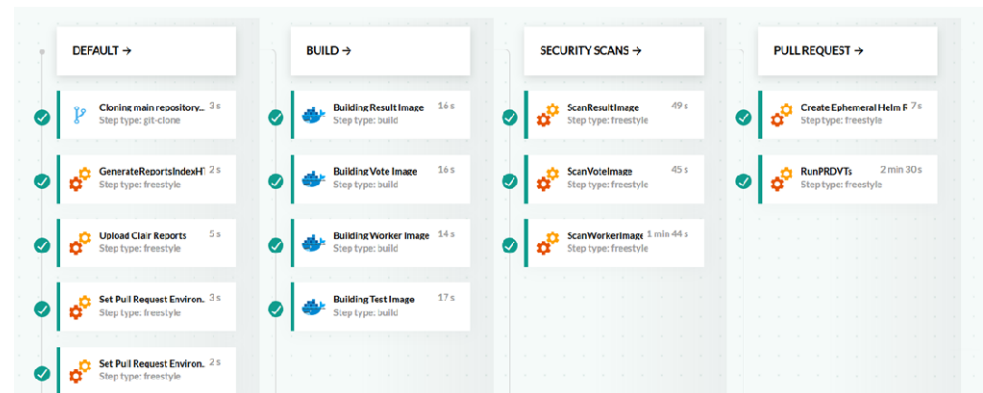
Codefresh SAAS



Other cloud

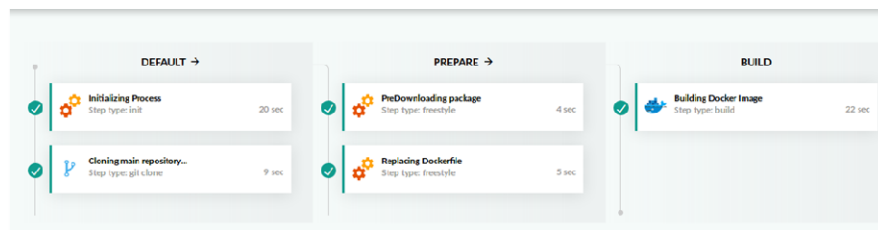


Google Cloud K8s

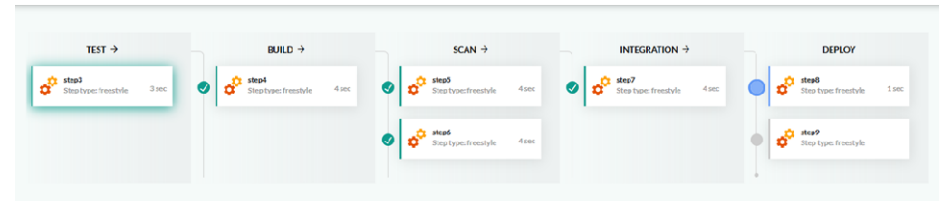


On-premise Datacenter

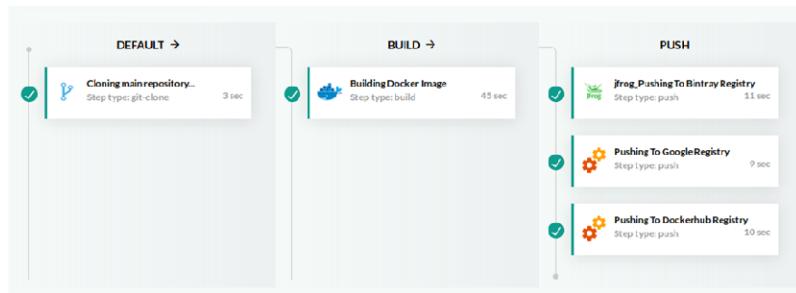
Full control on pipeline environment arch



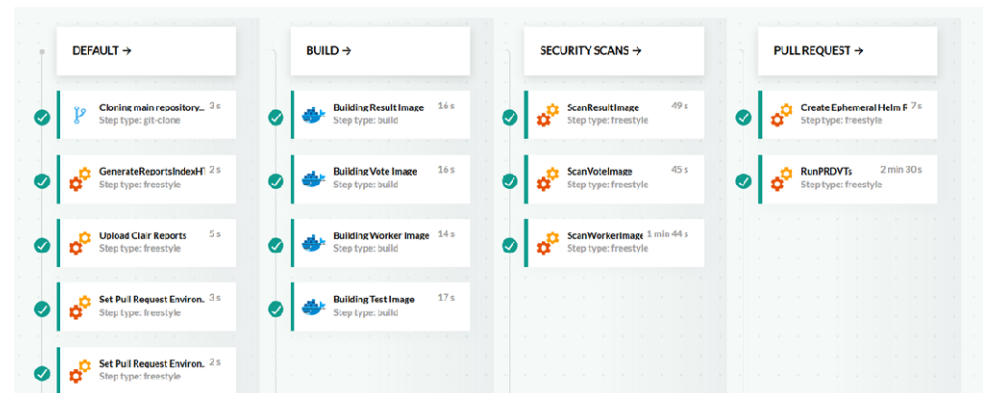
Codefresh SAAS (Linux)



Custom cluster (ARM)



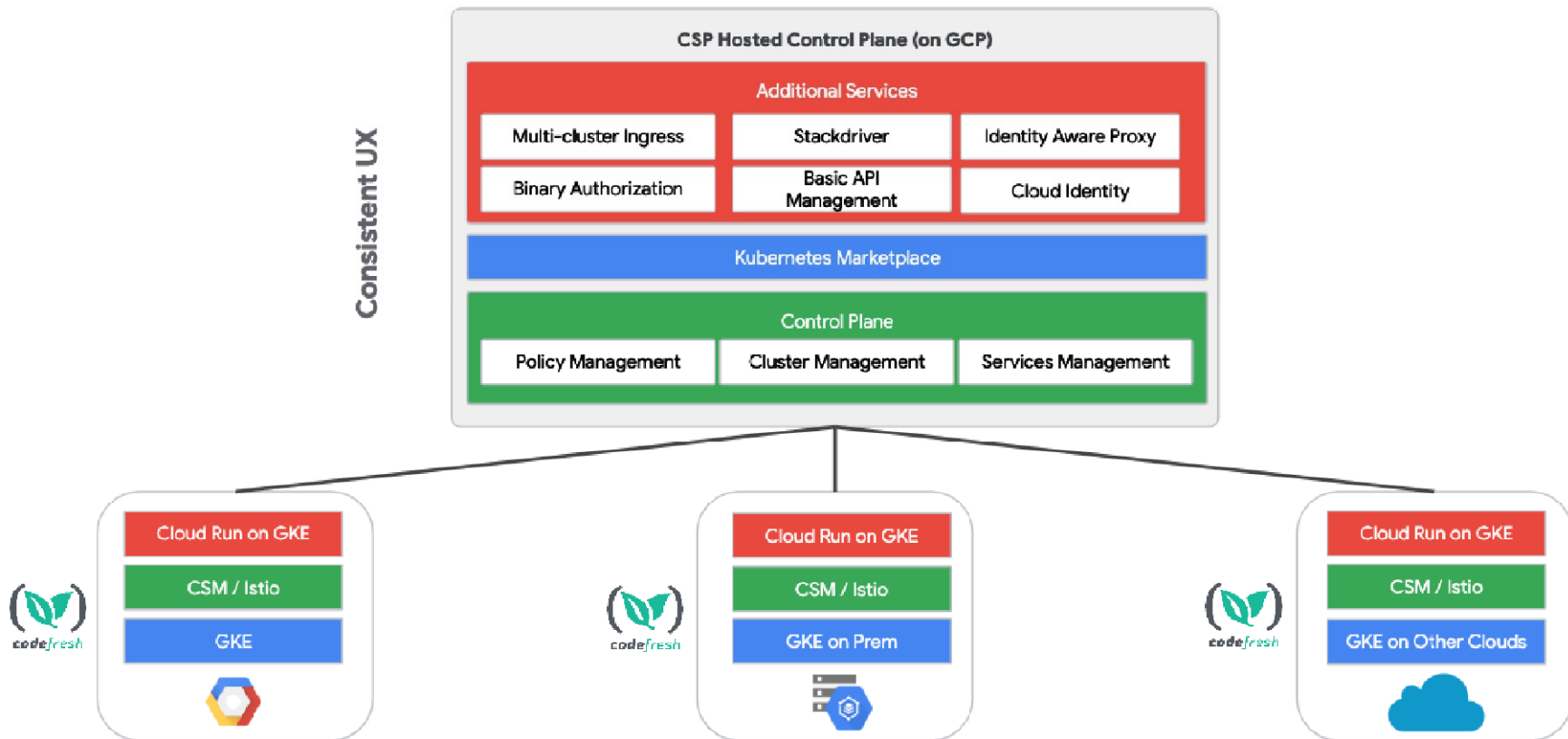
Google Cloud K8s (Linux)



On-premise Datacenter (Windows)

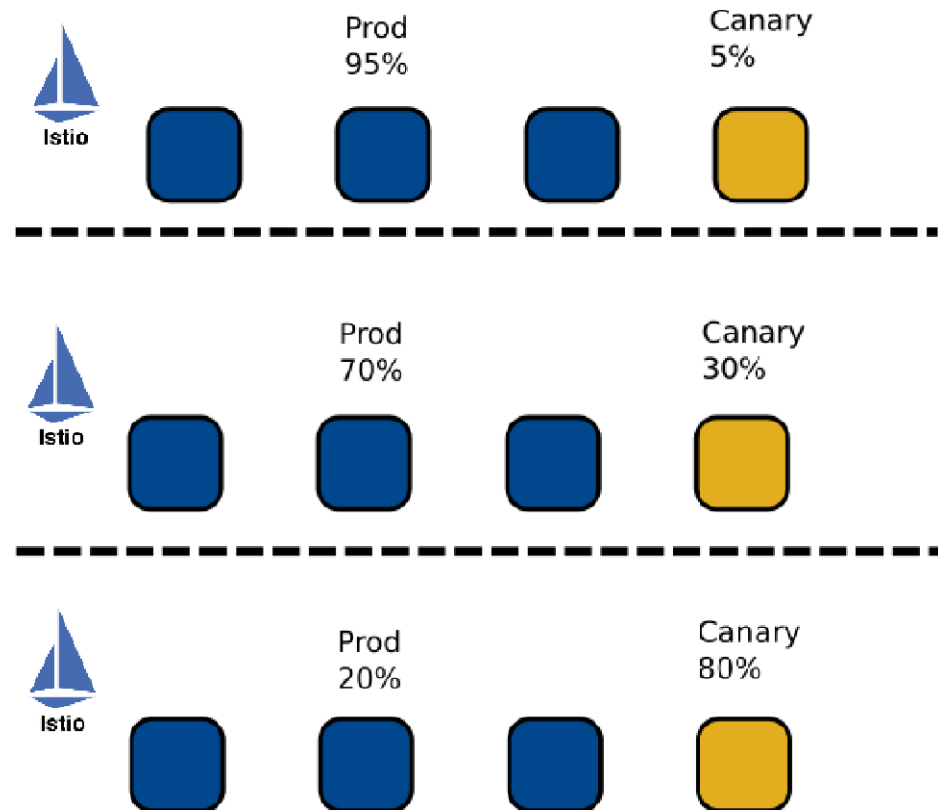
Google CSP

Codefresh is ready for GKE on-prem



Istio for CI/CD

- Use Istio today
- Define traffic during deployment stages
- Easy canary deployments
- Dedicated Istio UI support is coming soon in Codefresh



Summary

- SAAS, Hybrid, On prem
- Hybrid can be installed on any cluster
- Secure access, no open firewall ports
- Consistent experience for CI/CD

