



CONTOUR

Kubernetes Ingress Controller 101

FOSDEM '22
Orlin Vasilev



CLOUD NATIVE
COMPUTING FOUNDATION

whoami

- Orlin Vasilev aka Orlix
- Father of two
- CNCF Ambassador
- SysAdmin/Developer/DevOps/SRE
- DIY person
- Community Manager for Contour (@VMware)



Agenda

Intro to Contour - 101

Demo - install and configure

Community

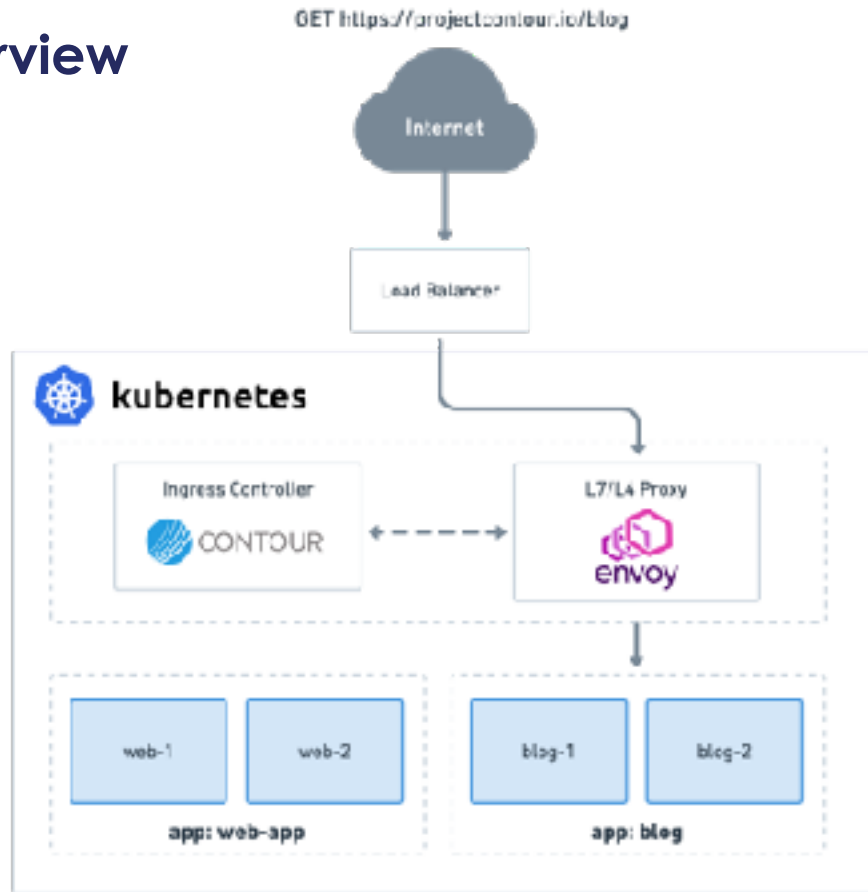


Contour 101

- Created by Heptio in 2017 : [announcement](#) and [note from Dave](#)
- Contour is an open source Kubernetes ingress controller providing the control plane for the Envoy as a data plane.
- Contour supports dynamic configuration updates and multi-team ingress delegation.



Architecture overview



Key features

- Multi-team Kubernetes clusters, with the ability to limit which Namespaces may configure virtual hosts and TLS credentials.
- Enables including of routing configuration for a path or domain from another HTTPProxy, possibly in another Namespace.
- Accepts multiple services within a single route and load balances traffic across them.
- Validation of HTTPProxy objects at creation time and status reporting for post-creation validity.....etc

Ingress vs (CRD)HTTPProxy

```
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: nginx
  namespace: fosdem
spec:
  rules:
  - host: local.projectcontour.io
    http:
      paths:
      - backend:
          service:
            name: web
            port:
              number: 80
          path: /
          pathType: Prefix
```

```
apiVersion: projectcontour.io/v1
kind: HTTPProxy
metadata:
  name: fosdem
  namespace: fosdem
spec:
  virtualhost:
    fqdn: local.projectcontour.io
  routes:
  - conditions:
    - prefix: /
    services:
    - name: web
      port: 80
```

What hooked me up!

```
apiVersion: projectcontour.io/v1
kind: HTTPProxy
metadata:
  name: fosdem
  namespace: fosdem
spec:
  routes:
  - services:
    - name: web-v1
      port: 80
      weight: 80
    - name: web-v2
      port: 80
      weight: 20
```


So why Contour?

- Dynamically update the ingress configuration with minimal dropped connections
- Safely support multiple types of ingress config in multi-team Kubernetes clusters
- Improve on core ingress configuration methods using our HTTPProxy custom resource
- v1.20.0 Kubernetes Gateway API support - [v1alpha2](#) (FOSDEM'23 :)
- Community and community support & Free and OpenSource - supported by CNCF



Used in



<https://github.com/knative>



<https://github.com/flyteorg/flyte>



<https://github.com/kinvolk/lokomotive>



<https://github.com/vmware-tanzu/community-edition>



etc...



DEMO

Install Contour

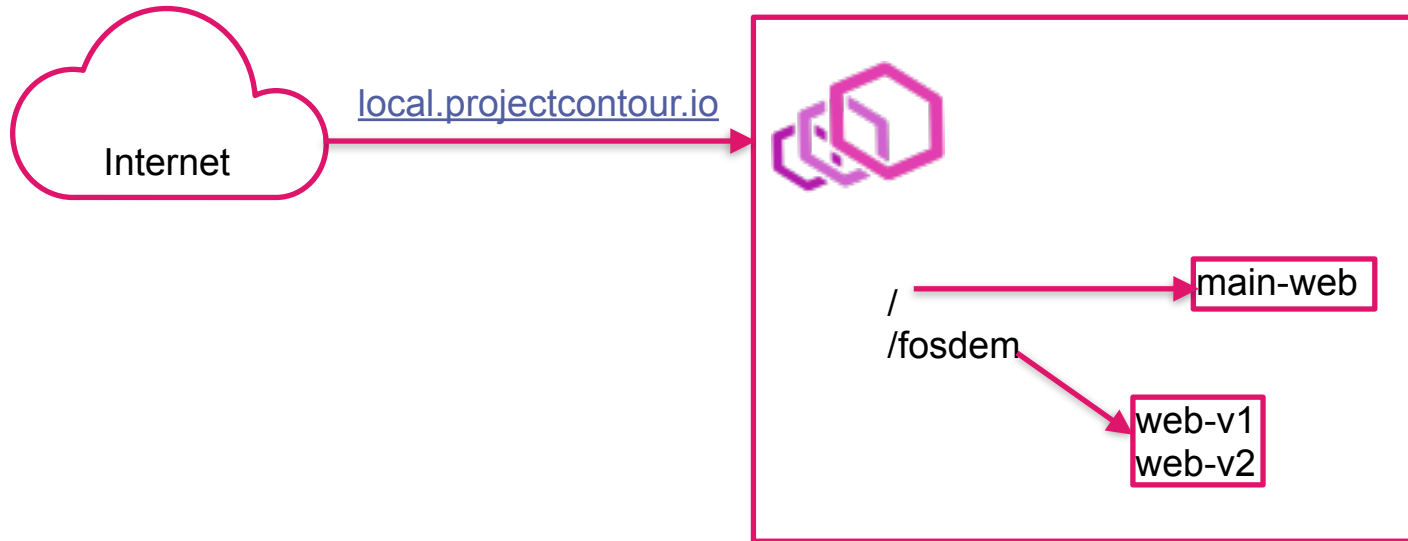
Delegation

Blue-green & Canary Deployments



CLOUD NATIVE
COMPUTING FOUNDATION

Demo setup(super simplified)



COMMUNITY

JOIN US!

Community



Stars

3000+



Forks

300



Commits

~4000



Contributors

300+



Members

1000+



Maintainers

6

Contributors & Maintainers



Adopters



Community

Web: projectcontour.io

Github: github.com/projectcontour

Slack: [#contour](https://kubernetes.slack.com)

Twitter: [@projectcontour](https://twitter.com/projectcontour)

Community Meetings and office hours: <https://projectcontour.io/community/>

Mailing List: lists.cncf.io/g/cncf-contour-users/



Really Join us! :)

#GoodFirstIssue

-> [Contour Technical Documentation Working Group](#)

Great way to start your open source and CNCF Journey

Full support of the team to get you set up and ready to create your first PR

MAKE SHURE YOU SIGN UP: lists.cncf.io/g/cncf-contour-users

CONTRIBUTING.md



Get in touch

Twitter: @OrlinVasilev

Slack(CNCF, Kubernetes): Orlin

GitHub: OrlinVasilev