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May 2020

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Elvin Efendi

Shopify

NGINX Ingress Controller for Kubernetes - Contribution Opportunities

Proudly supported by

ERPGO

kiss-conf

2 days, 13 speakers

Keep it stupid simple

https://kiss-conf.goupaz.com

Kiss.Conf 2020

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Elvin E.

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Education
        BSc: Baku State University

Experience
        Current : Senior Production Engineer at Shopify, co-maintainer of ingress-nginx
        Past: fitogram, Josh Software

Kubernetes.

- Orchestration of containerized applications
- Deployment, auto scaling, maintenance

Ingress. Controller.

- So we deployed example.com
- How do we expose it to Internet for users to be able to connect to it?
- Ingress resource
- Ingress controller

```
apiVersion: networking.k8s.io/v1beta1
kind: Ingress
metadata:
  name: example-com
spec:
  rules:
  - host: example.com
    http:
      paths:
      - path: /
        backend:
          serviceName: svc
          servicePort: 8080
```

ingress-nginx

- 67 releases over 480 contributors from all around the world
- 500 GitHub stars and almost 118 million downloads of the docker image since April 2018
- We also have almost 54,000 monthly visits to the documentation website and more than 4,400 users in the #ingress-nginx Kubernetes Slack channel.

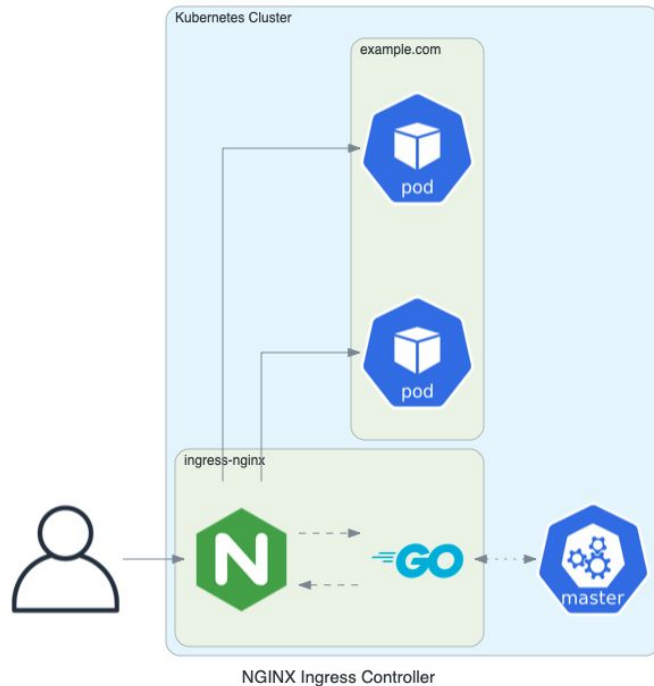**downloads since April 2018**   **119,563,758**

monthly downloads — 2018, 2019, 2020
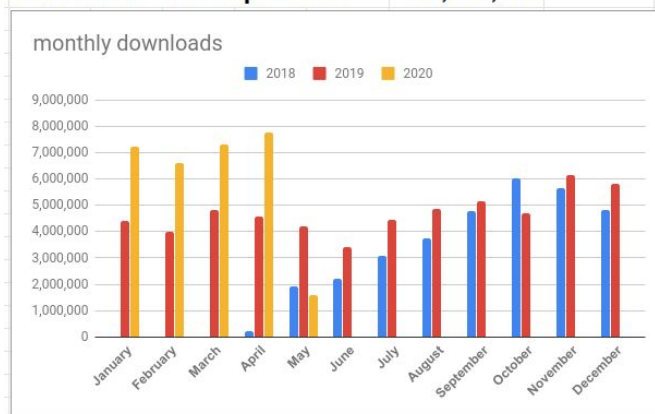
	2018	2019	2020
January		4,400,927	7,249,208
February		4,001,205	6,586,565
March		4,815,043	7,321,224
April	218,572	4,582,708	7,768,714
May	1,936,940	4,191,182	1,599,192
June	2,221,803	3,410,653	
July	3,095,724	4,446,027	
August	3,753,987	4,864,443	
September	4,769,848	5,146,299	
October	6,030,914	4,693,152	
November	5,654,174	6,160,397	
December	4,818,613	5,826,244	

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ingress-nginx: how it works

- Control plane
- Data plane
- Interaction between data plane and control plane
- Interaction between control plan and Kubernetes master

ingress-nginx: how it works

- Control plane
  - Watches on Ingress, Service, Secret, Endpoints, Configmap resources
  - Maintains an internal Go struct encapsulating all the configuration for Nginx
  - Generates Nginx configuration and reloads Nginx
- Data plane
  - Nginx powered by Lua
  - Dynamic endpoint configuration handling
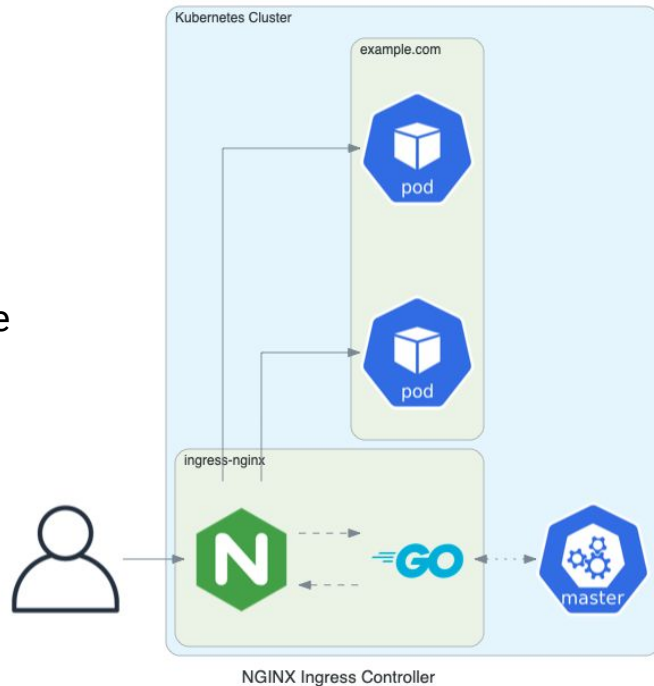
Contributing to ingress-nginx

- Go
- Writing Kubernetes controllers, using Kubernetes API client and familiarizing yourself with Kubernetes API in general
- Nginx, lua-nginx-module, Lua
- Deploy an instance of ingress-nginx and use it locally to expose a dummy app

Contributing to ingress-nginx

- Read the documentation, and make PRs to improve - there's a lot of room for improvement there
- Go through Github issues, try to review and give feedback on random PRs
- Here are some of the high priority issues
  - [Dynamic OCSP stapling improvements](#)
  - Improving test coverage
  - [A simple bug fix](#)

Q&A Discussion

Link to Q&A Panel: https://bit.ly/2KyViHb