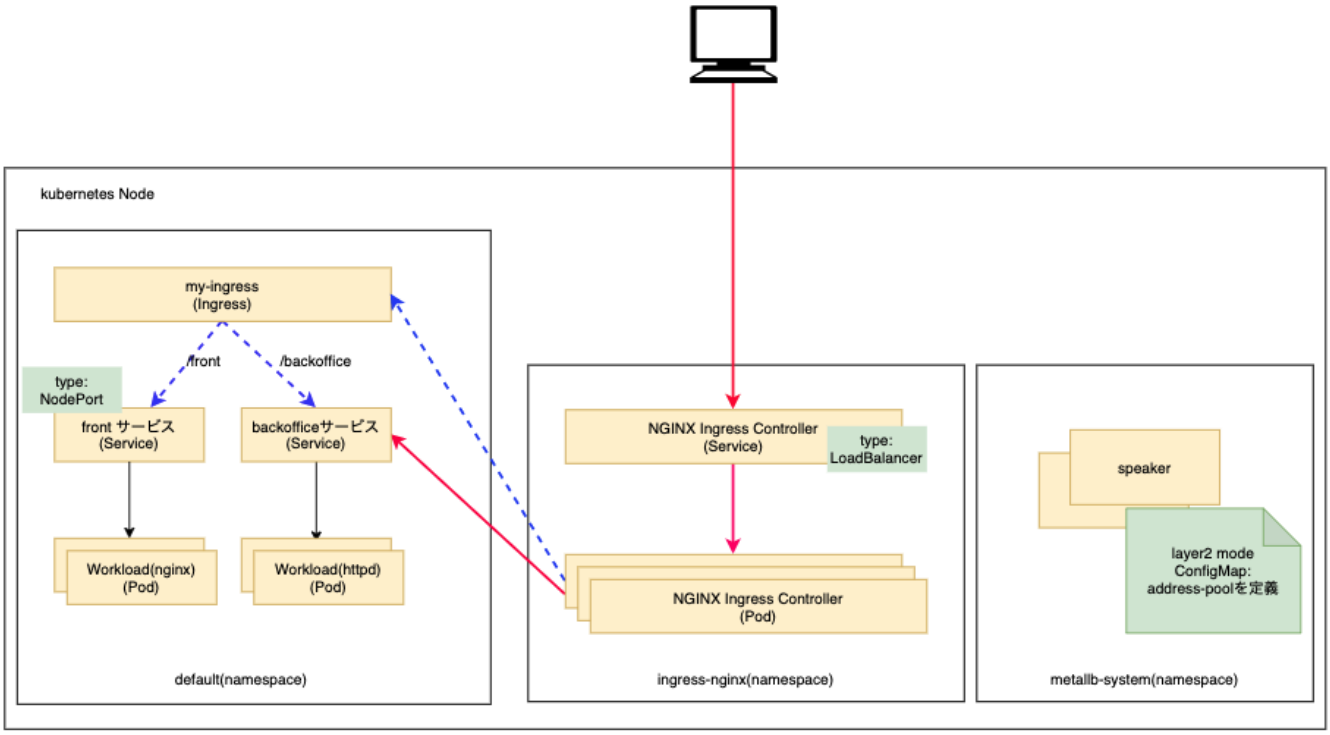
metallb + ingress

オンプレミズKubernetsクラスタにmetallbロードバランサー、nginxイングレスコントローラをセットアップする。

参考サイト



手順

1. リソースファイルをダウンロード

```
git clonne https://github.com/ntnx-huimin/k8s-metallb-ingress.git
```

2. metallbのデプロイ

```
cd 1.metallb/
kubectl apply -f namespace.yaml
kubectl applhy -f metallb.yaml
kubectl create secret generic -n metallb-system memberlist --from-
literal=secretkey="$(openssl rand -base64 128)"
```

3. IP Poolを設定

layer2-config.yamlにLB用IPアドレスのプールを設定する

metallb > ! layer2-config.yaml > {} data > config

You, 26 minutes ago | 1 author (You)

```yaml
apiVersion: v1
kind: ConfigMap
metadata:
  namespace: metallb-system
  name: config
data:
  config: |
    address-pools:
    - name: my-ip-space
      protocol: layer2
      addresses:
      - 10.129.45.11-10.129.46.50
```

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```
kubectl applhy -f layer2-config.yaml
```

```
NAME                              READY   STATUS    RESTARTS   AGE
pod/controller-fb659dc8-bvt8w     1/1     Running   0          48m
pod/speaker-dwx8m                 1/1     Running   0          48m

NAME                     DESIRED   CURRENT   READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR                   AGE
daemonset.apps/speaker   1         1         1       1            1           beta.kubernetes.io/os=linux     48m

NAME                         READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/controller   1/1     1            1           48m

NAME                                    DESIRED   CURRENT   READY   AGE
replicaset.apps/controller-fb659dc8     1         1         1       48m
```

4. nginx ingress controllerのデプロイ

サービス「ingress-nginx-controller」の種類を「LoadBalancer」に変更

```yaml
# Source: ingress-nginx/templates/controller-service.yaml
apiVersion: v1
kind: Service
metadata:
  annotations:
  labels:
    helm.sh/chart: ingress-nginx-3.33.0
    app.kubernetes.io/name: ingress-nginx
    app.kubernetes.io/instance: ingress-nginx
    app.kubernetes.io/version: 0.47.0
    app.kubernetes.io/managed-by: Helm
    app.kubernetes.io/component: controller
  name: ingress-nginx-controller
  namespace: ingress-nginx
spec:
  type: LoadBalancer
  ports:
    - name: http
      port: 80
      protocol: TCP
      targetPort: http
    - name: https
      port: 443
      protocol: TCP
      targetPort: https
```

```
cd ../2.ingress-nginx
kubectl apply -f nginx-ingress/deploy.yaml
kubectl get all -n ingress-nginx
```

```
NAME                                       TYPE           CLUSTER-IP       EXTERNAL-IP   PORT(S)                      AGE
ingress-nginx-controller                   LoadBalancer   172.19.51.177    10.129.45.13  80:31546/TCP,443:31615/TCP   127m
ingress-nginx-controller-admission         ClusterIP      172.19.215.144   <none>        443/TCP                      127m
```

5. 確認用ワークロードをデプロイ

```
cd ../3.test/
kubectl apply -f test-nginx.yaml -f test-nginx.yaml
kubectl apply -f test-ingress-resource.yaml
```

6. Podにindex.htmlファイルを配置

```
kubectl get pod

# backoffice pod
kubectl exec -it httpd-799d75575c-8g8zd # 確認したpod名を利用
cd /usr/local/apache2/htdocs
mkdir -p backoffice
echo "backoffice with httpd">backoffice/index.html
```

```
# front pod
kubectl exec -it nginx-8c9df995d-p6lpm bash  # 確認したpod名を利用
cd /usr/share/nginx/html/
mkdir -p front
echo "Hello from front pod with nginx"> front/index.html
```

6. 確認

```
kubectl get svc -n ingress-nginx

curl http://10.129.45.13/front/index.html

curl http://10.129.45.13/backoffice/index.html
```

7. traefik ingress controllerのデプロイ(Option)

```
cd ../4.traefik
kubectl create ns -n traefik
kubectl -n traefik apply -f 01-traefik-CRD.yaml
kubectl -n traefik apply -f 02-traefik-svc.yaml
kubectl -n traefik apply -f 03-traefik-Deployment.yaml

# 確認
kubectl get all -n traefik
```

ブラウザでURL: http://10.129.45.11:8080 にアクセス