K8s 외부 서비스 실습(Youtube)

링크 : https://www.youtube.com/watch?v=9TMIetXb6Pw&list=PLApuRlvrZKohaBHvXAOhUD-RxD0uQ3z0c&index=29

NGINX Ingress Controller 설치

kubernetes.io 에 접속하여 Document에서 ingress controller ➡ nginx 로 이동하여 링크 다운로드

Ingress | Kubernetes

```
$ wget https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-
v1.3.0/deploy/static/provider/baremetal/deploy.yaml

$ ls
>>> deploy.yaml
```

deploy.yaml 파일에서 Service 의 NodePort 수정

```
$ vim ./deploy.yaml
###
apiVersion: v1
kind: Namespace
metadata:
---
(생략)
---
apiVersion: v1
kind: Service
(생략)
spec:
  ports:
  - appProtocol: http
    name: http
    port: 80
    protocol: TCP
    targetPort: http
    nodePort: 30100
  - appProtocol: https
    name: https
    port: 443
    protocol: TCP
    targetPort: https
    nodePort: 30200
  - appProtocol: ssh
    name: ssh
    port: 22
    protocol: TCP
    targetPort: 22
    nodePort: 30300
(생략)
  type: NodePort
###

$ kubectl apply -f deploy.yaml
```

context 생성 및 변경

```
$ kubectl config set-context ingress-admin@kubernetes --cluster=kubernetes --user=kubernetes-admin  --namespace ingress-nginx
```

context 변경

```
$ kubectl config use-context ingress-admin@kubernetes
```

매니페스트 파일 생성

marvel-home.yaml

```
apiVersion: apps/v1
```

```
kind: Deployment
metadata:
  name: marvel-home
spec:
  replicas: 1
  selector:
    matchLabels:
      name: marvel
  template:
    metadata:
      labels:
        name: marvel
    spec:
      containers:
      - image: smlinux/marvel-collection
        name: marvel-container
        ports:
        - containerPort: 80
---
apiVersion: v1
kind: Service
metadata:
  name: marvel-service
spec:
  ports:
  - port: 80
    protocol: TCP
    targetPort: 80
  selector:
    name: marvel
```

pay.yaml

```

apiVersion: v1
kind: ReplicationController
metadata:
  name: pay-rc
spec:
  replicas: 3
  template:
    metadata:
      labels:
        app: pay
    spec:
      containers:
      - image: smlinux/pay
        name: pay
        ports:
        - containerPort: 8080
---
apiVersion: v1
kind: Service
metadata:
  name: pay-service
spec:
  ports:
  - port: 80
    targetPort: 8080
  selector:
    app: pay
```

ingress.yaml

```
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: marvel-ingress
spec:
  rules:
  - http:
      paths:
      - path: /
        pathType: Prefix
        backend:
          service:
            name: marvel-service
            port:
              number: 80
      - path: /pay
        pathType: Prefix
        backend:
          service:
            name: pay-service
            port:
              number: 80
```

On-Premise 환경의 경우 Load Balancer를 배포

MetalLB 배포

```
$ kubectl apply -f https://raw.githubusercontent.com/google/metallb/v0.8.3/manifests/metallb.yaml
```

MetalLB 설정 (ConfigMap 배포)

```
apiVersion: v1
kind: ConfigMap
metadata:
  namespace: metallb-system  # 고정 namespace 값
  name: config               # 고정 name 값
data:
  config: |
    address-pools:
    - name: my-ip-space
      protocol: layer2
      addresses:
      - 100.100.0.124-100.100.0.200  # address 부분 : 외부로 노출할 수 있는 IP 범위를 명시
                              # 예) master, worker node ip가 10.0.2.0/24 대역이라면 해당 대역으로 설정
```

LoadBalancer type Service 배포