



Sesi Kubernetes Pemalas dengan Kustomize



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OICNDI

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vmware®

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Kustomize

Kustomize adalah perkakas mandiri untuk memodifikasi objek kubernetes melalui berkas kustomize.yaml

Kenapa dibilang cara pemalas? Karena selalu membuat berkas konfigurasi yg bisa didaur ulang.

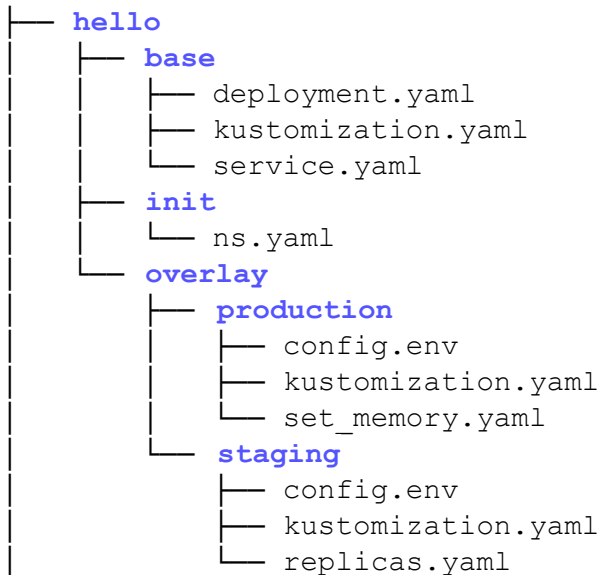


Features Kustomize

- 
- *secretGenerator*
 - *configMapGenerator*
 - *CombineFile | patchesStrategicMerge*



Skeleton



Base: reusable config

Overlay: base config + customize need

<https://github.com/tuanpembual/kustomize-sample>



Reusable Config



```
#base/deployment.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx
spec:
  replicas: 3
  selector: {}
  template:
    spec:
      containers:
        - name: nginx
          image: nginx:1.14.2
          ports:
            - containerPort: 80
```


```
#base/service.yaml
apiVersion: v1
kind: Service
metadata:
  name: nginx
  labels:
    app: nginx
spec:
  ports:
    - port: 80
      protocol: TCP
  selector:
    app: nginx
```

```
#init/ns.yaml
apiVersion: v1
kind: Namespace
metadata:
  name: staging
---

apiVersion: v1
kind: Namespace
metadata:
  name: production
```

```
#base/kustomization.yaml
apiVersion: kustomize.config.k8s.io/v1beta1
kind: Kustomization
commonLabels:
  project: oicndi2020
resources:
  - deployment.yaml
  - service.yaml
```

Overlay, Staging



```
#overlay/staging/kustomization.yaml
apiVersion:
kustomize.config.k8s.io/v1beta1
kind: Kustomization
bases:
  - ../../base/
namespace: staging

patchesStrategicMerge:
  - replicas.yaml

configMapGenerator:
  - name: nginx-config
    files:
      - config.env
```

```
#overlay/staging/replicas.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx
spec:
  replicas: 2
```

```
#overlay/staging/config.env
ENVIRONMENT=staging
```

Overlay, Production

```
#overlay/production/kustomization.yaml
apiVersion:
kustomize.config.k8s.io/v1beta1
kind: Kustomization
bases:
  - ../../base/
namespace: production

patchesStrategicMerge:
  - set_memory.yaml

configMapGenerator:
  - name: nginx-config
    files:
      - config.env
```

```
#overlay/production/set_memory.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx
spec:
  template:
    spec:
      containers:
        - name: nginx
          resources:
            limits:
              memory: 256Mi
```

```
#overlay/production/config.env
ENVIRONMENT=production
```



Running

1. Create combine YAML
2. Apply YAML

```
kustomize create --resources hello/overlay/staging
kustomize build . > s-deploy.yaml
kubectl apply -f s-deploy.yaml
```

```
kustomize create --resources hello/overlay/production
kustomize build . > p-deploy.yaml
kubectl apply -f p-deploy.yaml
```




Diff



```
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    project: oicndi2020
    name: nginx
    namespace: staging
spec:
  replicas: 2
  selector:
    matchLabels:
      project: oicndi2020
  template:
    metadata:
      labels:
        project: oicndi2020
    spec:
      containers:
        - image: nginx:1.14.2
          name: nginx
          ports:
            - containerPort: 80
```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    project: oicndi2020
    name: nginx
    namespace: production
spec:
  replicas: 3
  selector:
    matchLabels:
      project: oicndi2020
  template:
    metadata:
      labels:
        project: oicndi2020
    spec:
      containers:
        - image: nginx:1.14.2
          name: nginx
          ports:
            - containerPort: 80
          resources:
            limits:
              memory: 256Mi
```



References



- <https://kubernetes.io/docs/tasks/manage-kubernetes-objects/kustomization/>
- <https://github.com/tuanpembual/kustomize-sample>