



Metrics Server

3.1

kubectl top nodes



#	NAME	CPU(cores)	CPU%	MEMORY(bytes)	MEMORY%
#	minikube	150m	7%	1200Mi	31%

3.2 Pod

kubectl top pods -A



#	NAMESPACE	NAME	CPU(cores)	MEMORY(bytes)
#	kube-system	coredns-6d4b75cb6d-zw7bv	3m	12Mi
#	kube-system	etcd-minikube	25m	42Mi



4.1 Metrics Server



kubectl logs -n kube-system deployment/metrics-server

 API 

kubectl get --raw "/apis/metrics.k8s.io/v1beta1/nodes" | jq .

4.2



Metrics Server 

```
kubectl edit deployment -n kube-system metrics-server
```

```
□□□□□
```

```
spec:  
  template:  
    spec:  
      containers:  
      - args:  
        - --kubelet-insecure-tls  
        - --kubelet-preferred-address-types=InternalIP
```

```
□□□□
```

HPA □□


5.1 □□ HPA □□

```
apiVersion: autoscaling/v2  
kind: HorizontalPodAutoscaler  
metadata:  
  name: php-backend-hpa  
  namespace: php-vue-prod  
spec:  
  scaleTargetRef:  
    apiVersion: apps/v1  
    kind: Deployment  
    name: php-backend  
  minReplicas: 2  
  maxReplicas: 10  
  metrics:  
  - type: Resource  
    resource:  
      name: cpu  
      target:  
        type: Utilization  
        averageUtilization: 50  
  - type: Resource  
    resource:
```

```
name: memory
target:
  type: Utilization
  averageUtilization: 70
```


5.2 HPA


```
kubectl get hpa -n php-vue-prod
```

```
# 
# NAME          REFERENCE          TARGETS          MINPODS  MAXPODS  REPLICAS  AGE
# php-backend-hpa  Deployment/php-backend  50%/50%, 60%/70%  2        10       3         5m
```



6.1 Metrics Server

```
# 
kubectl get configmap -n kube-system metrics-server-config -o yaml

# 
apiVersion: v1
kind: ConfigMap
metadata:
  name: metrics-server-config
  namespace: kube-system
data:
  NODE_RESOLUTION_TIMEOUT: "30s"
  KUBELET_PREFERRED_ADDRESS_TYPES: "InternalIP,ExternalIP,Hostname"
```

6.2

```
kubectl edit deployment -n kube-system metrics-server
```



resources:

requests:

cpu: 100m

memory: 200Mi

limits:

cpu: 200m

memory: 400Mi



Kubernetes Dashboard












7.1 Dashboard

```
minikube addons enable dashboard
```

```
minikube dashboard
```



7.2

 Dashboard 

1.  " " → " "
2.  CPU/
3.  Pod  Pod 



1.   60

```
#  metrics-server   
--metric-resolution=30s
```

2.  

```
--requestheader-allowed-names="aggregator"  
--requestheader-extra-headers-prefix="X-Remote-Extra-"
```

3.  

nodeSelector:

kubernetes.io/os: linux



```
# [] metrics-server
```

```
minikube addons disable metrics-server
```

```
# [ ]
```

```
kubectl delete -n kube-system deployment metrics-server
```



Minikube []

Metrics Server



Revision #1

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