



{KODE{KLOUD

# Container Logging



# Logs - Docker

```
▶ docker run kodekloud/event-simulator
2018-10-06 15:57:15,937 - root - INFO - USER1 logged in
2018-10-06 15:57:16,943 - root - INFO - USER2 logged out
2018-10-06 15:57:17,944 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:18,951 - root - INFO - USER3 is viewing page3
2018-10-06 15:57:19,954 - root - INFO - USER4 is viewing page1
2018-10-06 15:57:20,955 - root - INFO - USER2 logged out
2018-10-06 15:57:21,956 - root - INFO - USER1 logged in
2018-10-06 15:57:22,957 - root - INFO - USER3 is viewing page2
2018-10-06 15:57:23,959 - root - INFO - USER1 logged out
2018-10-06 15:57:24,959 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:25,961 - root - INFO - USER1 logged in
2018-10-06 15:57:26,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:27,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:28,967 - root - INFO - USER2 is viewing page1
2018-10-06 15:57:29,967 - root - INFO - USER3 logged out
2018-10-06 15:57:30,972 - root - INFO - USER1 is viewing page2
2018-10-06 15:57:31,972 - root - INFO - USER4 logged out
2018-10-06 15:57:32,973 - root - INFO - USER1 logged in
2018-10-06 15:57:33,974 - root - INFO - USER1 is viewing page3
```

# Logs - Docker

```
▶ docker run -d kodekloud/event-simulator
```

```
▶ docker logs -f ecf
```

```
2018-10-06 15:57:15,937 - root - INFO - USER1 logged in
2018-10-06 15:57:16,943 - root - INFO - USER2 logged out
2018-10-06 15:57:17,944 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:18,951 - root - INFO - USER3 is viewing page3
2018-10-06 15:57:19,954 - root - INFO - USER4 is viewing page1
2018-10-06 15:57:20,955 - root - INFO - USER2 logged out
2018-10-06 15:57:21,956 - root - INFO - USER1 logged in
2018-10-06 15:57:22,957 - root - INFO - USER3 is viewing page2
2018-10-06 15:57:23,959 - root - INFO - USER1 logged out
2018-10-06 15:57:24,959 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:25,961 - root - INFO - USER1 logged in
2018-10-06 15:57:26,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:27,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:28,967 - root - INFO - USER2 is viewing page1
2018-10-06 15:57:29,967 - root - INFO - USER3 logged out
2018-10-06 15:57:30,972 - root - INFO - USER1 is viewing page2
2018-10-06 15:57:31,972 - root - INFO - USER4 logged out
2018-10-06 15:57:32,973 - root - INFO - USER1 logged in
2018-10-06 15:57:33,974 - root - INFO - USER1 is viewing page3
```

# Logs - Kubernetes

```
▶ kubectl create -f event-simulator.yaml
```

```
▶ kubectl logs -f event-simulator-pod
```

```
2018-10-06 15:57:15,937 - root - INFO - USER1 logged in
2018-10-06 15:57:16,943 - root - INFO - USER2 logged out
2018-10-06 15:57:17,944 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:18,951 - root - INFO - USER3 is viewing page3
2018-10-06 15:57:19,954 - root - INFO - USER4 is viewing page1
2018-10-06 15:57:20,955 - root - INFO - USER2 logged out
2018-10-06 15:57:21,956 - root - INFO - USER1 logged in
2018-10-06 15:57:22,957 - root - INFO - USER3 is viewing page2
2018-10-06 15:57:23,959 - root - INFO - USER1 logged out
2018-10-06 15:57:24,959 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:25,961 - root - INFO - USER1 logged in
2018-10-06 15:57:26,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:27,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:28,967 - root - INFO - USER2 is viewing page1
2018-10-06 15:57:29,967 - root - INFO - USER3 logged out
2018-10-06 15:57:30,972 - root - INFO - USER1 is viewing page2
2018-10-06 15:57:31,972 - root - INFO - USER4 logged out
2018-10-06 15:57:32,973 - root - INFO - USER1 logged in
2018-10-06 15:57:33,974 - root - INFO - USER1 is viewing page3
```

```
event-simulator.yaml
```

```
apiVersion: v1
kind: Pod
metadata:
  name: event-simulator-pod
spec:
  containers:
  - name: event-simulator
    image: kodekloud/event-simulator
```

# Logs - Kubernetes

```
kubectl logs -f event-simulator-pod event-simulator
```

```
2018-10-06 15:57:15,937 - root - INFO - USER1 logged in
2018-10-06 15:57:16,943 - root - INFO - USER2 logged out
2018-10-06 15:57:17,944 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:18,951 - root - INFO - USER3 is viewing page3
2018-10-06 15:57:19,954 - root - INFO - USER4 is viewing page1
2018-10-06 15:57:20,955 - root - INFO - USER2 logged out
2018-10-06 15:57:21,956 - root - INFO - USER1 logged in
2018-10-06 15:57:22,957 - root - INFO - USER3 is viewing page2
2018-10-06 15:57:23,959 - root - INFO - USER1 logged out
2018-10-06 15:57:24,959 - root - INFO - USER2 is viewing page2
2018-10-06 15:57:25,961 - root - INFO - USER1 logged in
2018-10-06 15:57:26,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:27,965 - root - INFO - USER4 is viewing page3
2018-10-06 15:57:28,967 - root - INFO - USER2 is viewing page1
2018-10-06 15:57:29,967 - root - INFO - USER3 logged out
2018-10-06 15:57:30,972 - root - INFO - USER1 is viewing page2
2018-10-06 15:57:31,972 - root - INFO - USER4 logged out
2018-10-06 15:57:32,973 - root - INFO - USER1 logged in
2018-10-06 15:57:33,974 - root - INFO - USER1 is viewing page3
```

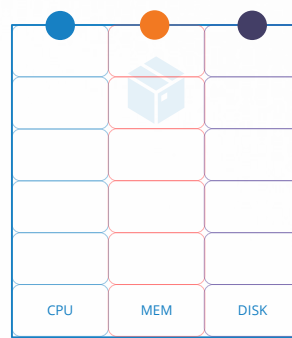
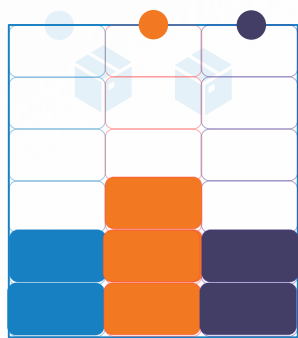
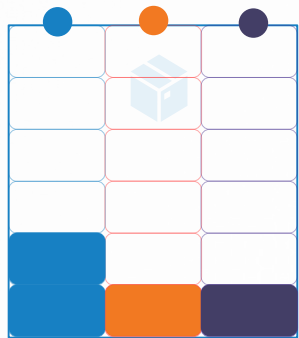
event-simulator.yaml

```
apiVersion: v1
kind: Pod
metadata:
  name: event-simulator-pod
spec:
  containers:
  - name: event-simulator
    image: kodekloud/event-simulator
  - name: image-processor
    image: some-image-processor
```

# Monitoring Kubernetes



# Monitor





# Monitor

METRICS  
SERVER



Prometheus



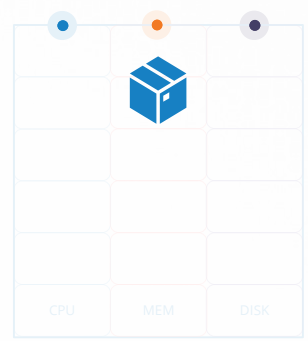
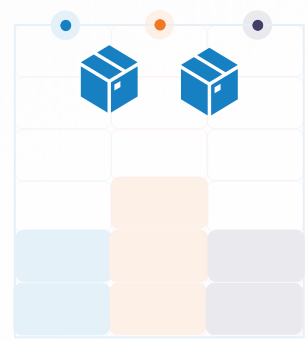
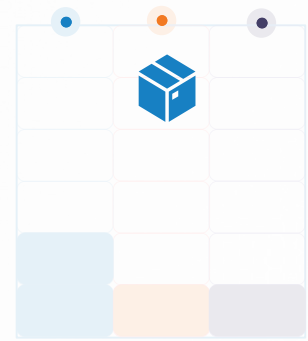
Elastic Stack



DATADOG



dynatrace



# Monitor

METRICS  
SERVER



Prometheus



Elastic Stack



DATADOG



dynatrace

# Monitor

METRICS  
SERVER



Prometheus



Elastic Stack



DATADOG



dynatrace

# | Heapster vs Metrics Server

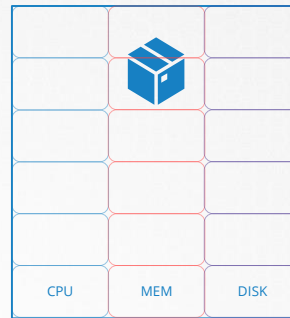
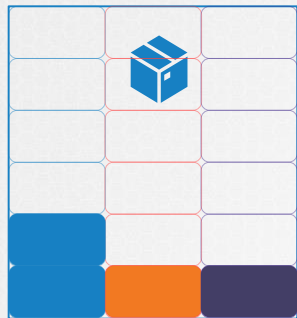
HEAPSTER

**DEPRECATED**

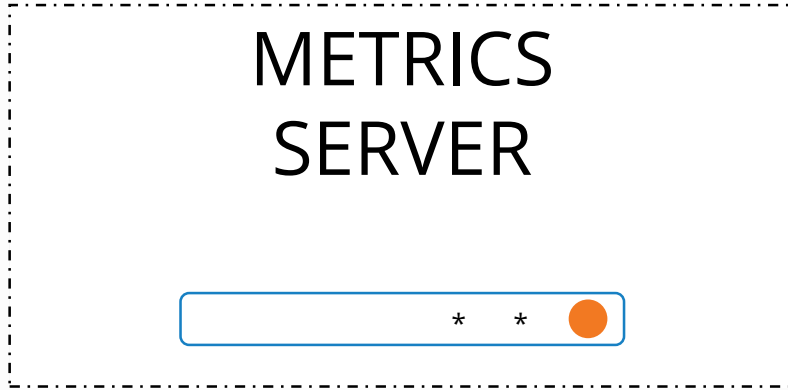
METRICS  
SERVER

# | Metrics Server

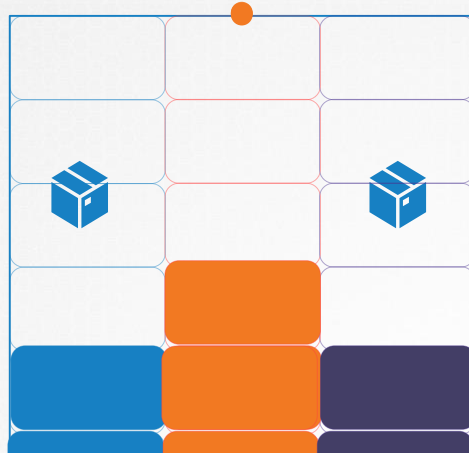
METRICS  
SERVER



# Metrics Server

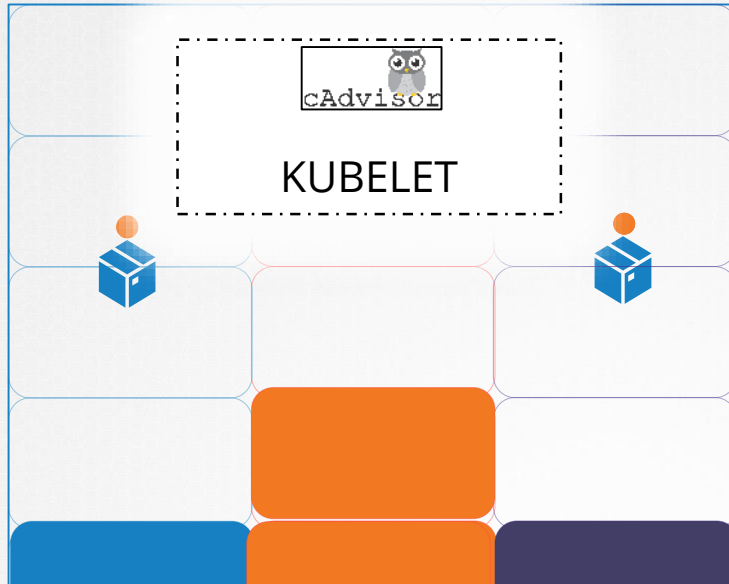


IN-MEMORY



# Metrics Server

METRICS  
SERVER



# Metrics Server – Getting Started



minikube

```
minikube addons enable metrics-server
```

others

```
git clone https://github.com/kubernetes-incubator/metrics-server.git
```

```
kubectl create -f deploy/1.8+/
```

```
clusterrolebinding "metrics-server:system:auth-delegator" created  
rolebinding "metrics-server-auth-reader" created  
apiservice "v1beta1.metrics.k8s.io" created  
serviceaccount "metrics-server" created  
deployment "metrics-server" created  
service "metrics-server" created  
clusterrole "system:metrics-server" created  
clusterrolebinding "system:metrics-server" created
```



# View

```
▶ kubectl top node
```

NAME	CPU(cores)	CPU%	MEMORY(bytes)	MEMORY%
kubemaster	166m	8%	1337Mi	70%
kubenode1	36m	1%	1046Mi	55%
kubenode2	39m	1%	1048Mi	55%

```
▶ kubectl top pod
```

NAME	CPU(cores)	CPU%	MEMORY(bytes)	MEMORY%
nginx	166m	8%	1337Mi	70%
redis	36m	1%	1046Mi	55%

# Notes

- Play-with-k8s is on version 1.8, so it still requires heapster.  
Does not work with metrics-server.

# References

- <https://kubernetes.io/docs/tasks/debug-application-cluster/core-metrics-pipeline/>
- <https://kubernetes.io/docs/tasks/debug-application-cluster/resource-usage-monitoring/>
- <https://kubernetes.io/docs/tasks/administer-cluster/manage-resources/>