Prometheus & ServiceMonitor

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Prometheus

- Open Source metrics and monitoring solution

- It stores time series in memory and on local disk in an efficient custom format

- Scaling is achieved by functional sharding and federation

- Alertmanager handles notifications and silencing and allows third-party integrations (ex: pagerduty)

- Strong community behind with a lot of default and third-party integrations (exporters)

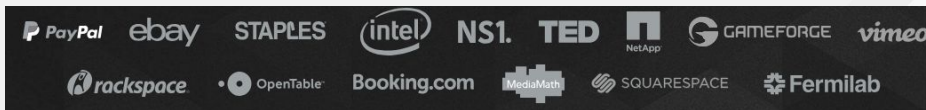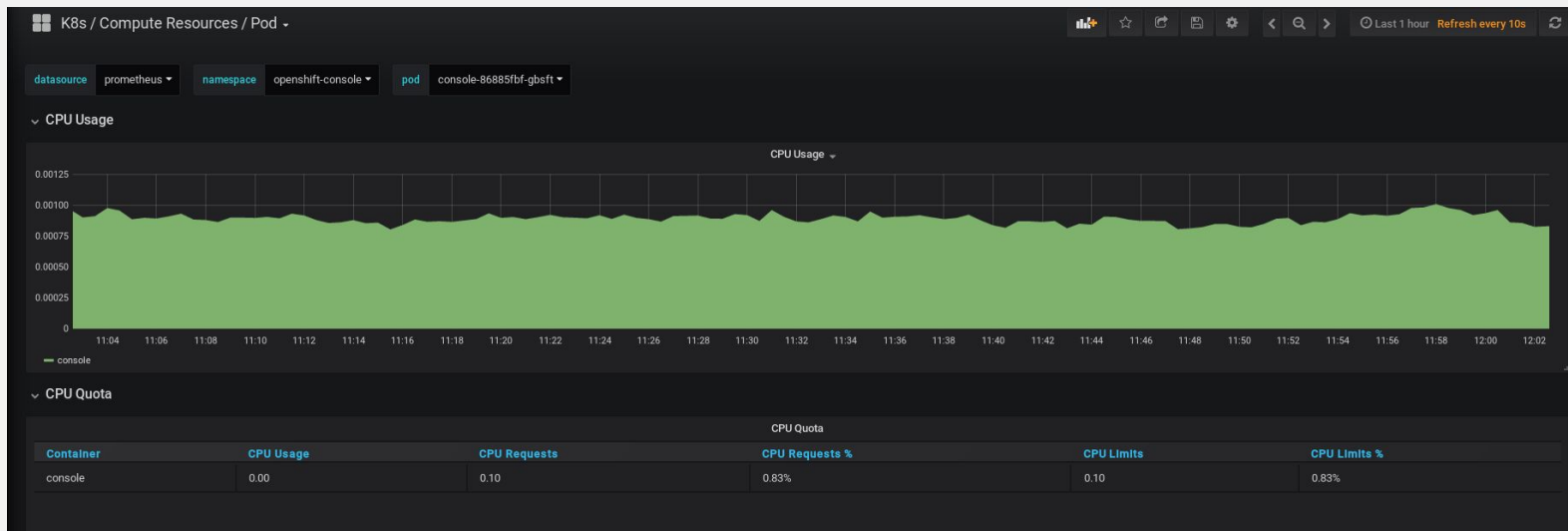- Prometheus Operator

- CRDs

- Grafana

Grafana

- The open platform for beautiful analytics and monitoring

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ServiceMonitor

- Specifies how groups of services should be monitored
- The Operator automatically generates Prometheus scrape configuration based on the definition

```
[root@okd-master1 ~]# oc get servicemonitors
NAME                               AGE
alertmanager                       10d
caturday                           6d
cluster-monitoring-operator        10d
kube-apiserver                     10d
kube-controllers                   10d
kube-state-metrics                 10d
kubelet                            10d
node-exporter                      10d
poller                             6d
prometheus                         10d
prometheus-operator                10d
[root@okd-master1 ~]#
```

```
[root@okd-master1 ~]# oc get --export -o yaml servicemonitor poller
apiVersion: monitoring.coreos.com/v1
kind: ServiceMonitor
metadata:
  generation: 1
  labels:
    k8s-app: poller
  name: poller
  namespace: ""
  resourceVersion: ""
  selfLink: /apis/monitoring.coreos.com/v1/namespaces/openshift-monitoring/servicemonitors/poller
  uid: ""
spec:
  endpoints:
  - bearerTokenFile: /var/run/secrets/kubernetes.io/serviceaccount/token
    interval: 5s
    port: 9090-tcp
    scheme: http
    targetPort: 0
  namespaceSelector:
    matchNames:
    - poller
  selector:
    matchLabels:
      app: poller
[root@okd-master1 ~]#
```
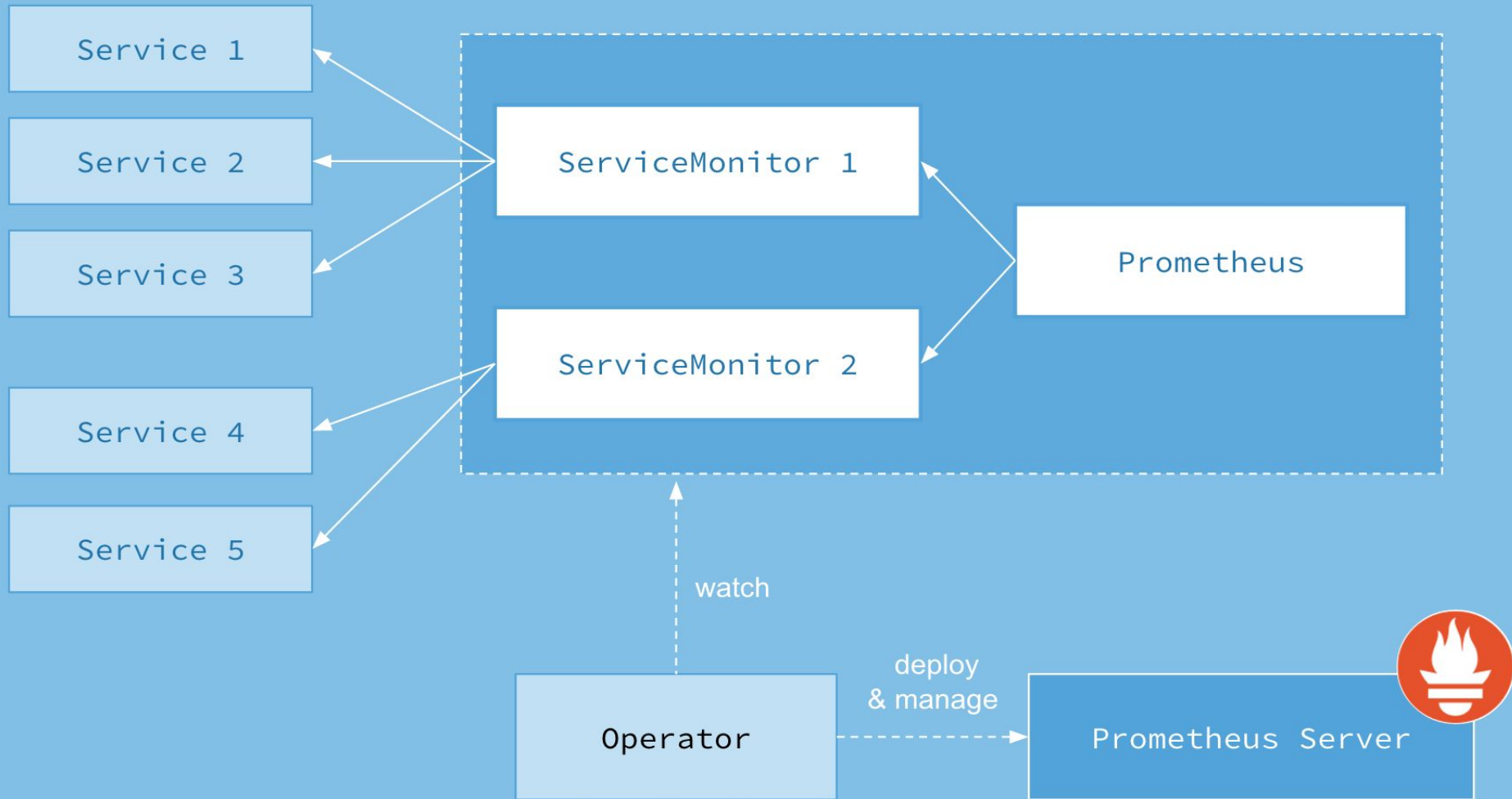
Definition

The ServiceMonitor object uses the k8s service object to get the info it needs

```
apiVersion: v1
kind: Service
metadata:
  labels:
    app: example-app
  name: example-app
spec:
  ports:
  - name: 9090-tcp
    port: 9090
    protocol: TCP
    targetPort: 9090
  selector:
    app: example-app
  sessionAffinity: None
  type: ClusterIP
```

```
apiVersion: monitoring.coreos.com/v1
kind: ServiceMonitor
metadata:
  labels:
    k8s-app: example
  name: example-servicemonitor
spec:
  endpoints:
  - scheme: http
    interval: 30s
    port: 9090-tcp
    targetPort: 0
  namespaceSelector:
    matchNames:
    - example-namespace
  selector:
    matchLabels:
      app: example-app
```

k8s-app is the label needed by the Prometheus Operator to identify which scrape configuration should be generated

redhat.

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Q&A

https://prometheus.io/

https://grafana.com/

https://github.com/coreos/prometheus-operator

https://github.com/ugol/poller