Prometheus

What is it?

Open-source systems monitoring and toolkit

- Multi dimensional data model

- Query Language

- Data is retrieved from targets via pull over http/https

- Targets are configured manually or via service discovery

Origins

Kubernetes

- Inspired by Google Borg
- Not Borg

Prometheus

- Inspired by Google Borgmon
- Initially developed by former Google employees working at SoundCloud (2012)
- Not Borgmon

Data model

Multi label time series of a metric

Notation:

\<metric name>{\<label name>=\<label value>, …}

Prometheus Metric Types

https://prometheus.io/docs/concepts/metric_types/

- Counter
  - only goes up
- Gauge
  - Can go up and down
- Histogram and Summary
  - Sampled observations

This talk

- Deployment of Prometheus within OpenShift
- Having a first look at Prometheus
- Configuring Prometheus for OpenShift Cluster Monitoring (SD)
- Getting route metrics into Prometheus using haproxy-exporter
- Using Grafana as Prometheus frontend

Some Metrics

- container_memory_usage_bytes
    - {container_label_io_kubernetes_pod_name}
    - {container_label_io_kubernetes_pod_namespace}

- container_cpu_usage_seconds_total

Links

Prometheus

- https://prometheus.io
- https://github.com/prometheus

OpenShift

- https://docs.openshift.com (enterprise)
- https://docs.openshift.org (upstream)

Bonus: some truly amazing stuff

CRISPR

https://www.youtube.com/watch?v=jAhjPd4uNFY

Ruby Seadragon First Glimpse in Wild

https://www.youtube.com/watch?v=Bp5w4HjoaJM