Deploying Prometheus and Grafana to Kubernetes

Start

One of the easiest ways to get Prometheus deployed to Kubernetes is via the kube-prometheus-stack helm chart. This chart not only installs everything needed to run Prometheus on Kubernetes, but also adds the Prometheus Operator, which helps to greatly simplify its configuration and discovery of the target resources to be monitored.

This helm chart also installs Grafana and several built-in dashboards that will help you get monitoring and alerting for your Kubernetes cluster right away.

You can learn more about the kube-prometheus-stack helm chart, including all its configuration options, by going to the prometheus-community/helm-charts repository.

Let's now see how to use this helm chart to deploy Prometheus and Grafana to our AKS cluster.

In Infra repo

1. Mention the helm chart location:
https://github.com/prometheus-community/helm-charts/tree/main/charts/kube-prometheus-stack

2. Add values.yaml under prometheus directory:

```
prometheus:
  prometheusSpec:
    scrapeInterval: 10s
    externalUrl: "/prometheus"
    serviceMonitorSelectorNilUsesHelmValues: false

grafana:
  grafana.ini:
    server:
      root_url: "%(protocol)s://%(domain)s/grafana"
      serve_from_sub_path: true
```

3. Update README.md with steps to deploy Prometheus:

```
## Deploy Prometheus
```powershell
helm repo add prometheus-community https://prometheus-community.github.io/helm-charts
helm repo update
```

helm upgrade prometheus prometheus-community/kube-prometheus-stack --values
.\prometheus\values.yaml -n observability --install
```

4. Update emissary-ingress\mappings.yaml with mappings for Prometheus and Grafana:

```
---
apiVersion: getambassador.io/v3alpha1
kind: Mapping
metadata:
  name: prometheus-mapping
spec:
  hostname: playeconomy.eastus.cloudapp.azure.com
  prefix: /prometheus/
  service: prometheus-operated.observability:9090

---
apiVersion: getambassador.io/v3alpha1
kind: Mapping
metadata:
  name: grafana-mapping
spec:
  hostname: playeconomy.eastus.cloudapp.azure.com
  prefix: /grafana/
  service: prometheus-grafana.observability
```

5. Browse to Prometheus in the cloud:

https://playeconomy.eastus.cloudapp.azure.com/prometheus/

6. Browse to Grafana in the cloud:

https://playeconomy.eastus.cloudapp.azure.com/grafana/
User: admin
Pass: prom-operator

7. Show the built-in dashboards

8. Show the Node Exporter / Nodes dashboard

9. Commit and push

In the next lesson you will update your Trading microservice so it can be monitored by Prometheus and Grafana in AKS.