Create a Cluster

This lesson focuses on creating a cluster and the necessary requirements and gists for this chapter.

WE'LL COVER THE FOLLOWING

- Pulling the code
- Gists and specifications

Pulling the code

The vfarcic/k8s-specs repository will continue being our source of Kubernetes definitions we'll use for our examples. We'll make sure that it is up-to-date by pulling the latest version.

> 🔍 All the commands from this chapter are available in the 04-instrument.sh Gist. Just as in the previous chapter, it contains not only the commands but also `Prometheus' expressions` . If you're planning to copy&paste the expressions from the Gist, please exclude the comments. Each expression has a `# Prometheus expression` comment on top to help you identify it.

```
cd k8s-specs

git pull
```

Given that we learned how to install a fully operational `Prometheus` and the rest of the tools from its Chart, and that we'll continue using them, I moved it to the **Gists**. Those that follow are copies of those we used in the previous chapter, with the addition of environment variables **PROM_ADDR** and **AM_ADDR**s and the steps for the installation of the **Prometheus Chart**. Please create a cluster that meets (or exceeds) the requirements specified in the **Gists**

that follow, unless you already have a cluster that satisfies them.

Gists and specifications

Choose the flavor you want and run the commands from its `.sh` file to create the cluster and the required specifications needed in this chapter.

> **NOTE:** In the end, you will see a command to `DELETE` the cluster too. Don't execute that command. Use the `DELETE` command only when you need to delete the cluster, preferably at the end of the chapter.

GKE

- gke-instrument.sh: **GKE** with 3 n1-standard-1 worker nodes, **nginx Ingress**, **Prometheus** Chart, and environment variables **LB_IP**, **PROM_ADDR**, and **AM_ADDR*

EKS

- eks-instrument.sh: **EKS** with 3 t2.small worker nodes, **nginx Ingress**, **Metrics Server**, **Prometheus** Chart, and environment variables **LB_IP**, **PROM_ADDR**, and **AM_ADDR**

AKS

- aks-instrument.sh: **AKS** with 3 Standard_B2s worker nodes, **nginx Ingress** and **Prometheus** Chart, and environment variables **LB_IP**, **PROM_ADDR**,

and **AM_ADDR**

Docker for Desktop

- docker-instrument.sh: **Docker for Desktop** with **2 CPUs, 3 GB RAM**, **nginx Ingress**, **Metrics Server**, **Prometheus** Chart, and environment variables **LB_IP**, **PROM_ADDR**, and **AM_ADDR**

Minikube

- minikube-instrument.sh: **minikube** with **2 CPUs, 3 GB RAM**, **ingress**, **storage-provisioner**, **default-storageclass**, and **metrics-server** addons enabled, **Prometheus** Chart, and environment variables **LB_IP**, **PROM_ADDR**, and **AM_ADDR**

In the next lesson, we will face our first simulated issue that might require debugging.