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Helm Installation

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$ curl -fsSl -o get\_helm.sh https://raw.githubusercontent.com/helm/helm/master/scripts/get-helm-3

$ chmod 700 get\_helm.sh

$ ./get\_helm.sh

$ helm

Add the metrics-server repo to helm

# helm repo add metrics-server https://kubernetes-sigs.github.io/metrics-server/

# Install the chart

$ helm upgrade --install metrics-server metrics-server/metrics-server

once the metrics server is installed, we can verify with below commands

$ kubectl top pods

$ kubectl top nodes

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Kubernetes Monitoring

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We can monitor our k8s cluster and cluster components using below software’s

1) Prometheus

2) Grafana

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Prometheus

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Prometheus is an open-source systems monitoring and alerting toolkit

Prometheus collects and stores its metrics as time series data

It provides out-of-the-box monitoring capabilities for the k8s container orchestration platform.

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Grafana

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Grafana is an analysis and monitoring tool

It provides visualization for monitoring

It provides charts, graphs, and alerts for the web when connected to supported data sources.

Note: Grafana will connect with Prometheus for data source.

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How to deploy Grafana and Prometheus in K8s

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Using helm charts, we can easily deploy both Grafana and Prometheus in our k8s cluster

Step -1

Add the latest helm repository in Kubernetes

# helm repo add stable https://charts.helm.sh/stable

Step -2

Add Prometheus repo to helm

# helm repo add prometheus-community https://prometheus-community.github.io/helm-charts

Step -3

Update Helm Repo

# helm repo update

Step -4

We need to install the Prometheus software

# helm install stable prometheus-community/kube-prometheus-stack

# Check the services

# kubectl get svc

By default, Prometheus and Grafana services are available within the cluster as ClusterIP, to access them outside let’s change it to LoadBalancer.

Edit Prometheus Service & change service type to LoadBalancer then save and close that file

# kubectl edit svc stable-kube-prometheus-sta-prometheus

Now edit the Grafana service & change service type to LoadBalancer then save and close that file

# kubectl edit svc stable-grafana

Verify the service if changed to LoadBalancer

# kubectl get svc

=> Access Prometheus server using below URL

URL : http://LBR-DNS:9090/

=> Access Grafana server using below URL

URL : http://LBR-DNS/

=> Use below credentials to login into Grafana server

Username: admin

Password: prom-operator

=> Once we login into Grafana then we can monitor our k8s cluster. Grafana will provide all the data in charts format.