Prometheus LAB

12 January 2021 10:00

Prometheus:

Installation Steps:

Base master with weave (CNI) k8s v.1.19.x

Create a namespace:

kubectl create namespace prometheus

```
[root@master ~]# kubectl create namespace prometheus
namespace/prometheus created
[root@master ~]# kubectl get ns
NAME              STATUS   AGE
default           Active   2d7h
kube-node-lease   Active   2d7h
kube-public       Active   2d7h
kube-system       Active   2d7h
prometheus        Active   9s
[root@master ~]#
```

Install helm and pull repository:

yum install wget -y
wget https://get.helm.sh/helm-v3.5.0-rc.2-linux-amd64.tar.gz
tar -zxvf helm-v3.5.0-rc.2-linux-amd64.tar.gz
mv linux-amd64/helm /usr/local/bin/
helm version

Add Prometheus repo:

****** Stable repo is deprecated in helm**

kubectl create namespace prometheus
helm repo add stable https://charts.helm.sh/stable
helm repo update
helm repo add prometheus-community https://prometheus-community.github.io/helm-charts
helm repo update

Generate helm chart values for Prometheus:

- **Export values file to update inputs:**

```
[root@master prometheus]# helm show values prometheus-community/prometheus > prometheus-values.yaml
[root@master prometheus]# ls
Chart.lock  charts  Chart.yaml  prometheus-values.yaml  README.md  templates  values.yaml
[root@master prometheus]#
```

Modify values in helm chart:

Change value from "true" to false - Prometheus Alertmanager and Server

```
[root@master prometheus]# cat prometheus-values.yaml | egrep -i PersistentVolume -A5
  persistentVolume:
    ## If true, alertmanager will create/use a Persistent Volume Claim
    ## If false, use emptyDir
    ##
    #enabled: true
    enabled: false
--
    ## Requires alertmanager.persistentVolume.enabled: true
    ## If defined, PVC must be created manually before volume will be bound
    existingClaim: ""

    ## alertmanager data Persistent Volume mount root path
    ##
--
  persistentVolume:
    ## If true, Prometheus server will create/use a Persistent Volume Claim
    ## If false, use emptyDir
    ##
    enabled: false
    #enabled: true
--
```

Install Prometheus using custom values:

```
[root@master ~]# helm install prometheus prometheus-community/prometheus -n prometheus --values prometheus-values.yaml
NAME: prometheus
LAST DEPLOYED: Thu Jan 14 06:08:54 2021
NAMESPACE: prometheus
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
The Prometheus server can be accessed via port 80 on the following DNS name from within your cluster:
prometheus-server.prometheus.svc.cluster.local
```

========== Installation output

Get the Prometheus server URL by running these commands in the same shell:
  export POD_NAME=$(kubectl get pods --namespace prometheus -l "app=prometheus,component=server" -o jsonpath="{.items[0].metadata.name}")
  kubectl --namespace prometheus port-forward $POD_NAME 9090

The Prometheus alertmanager can be accessed via port 80 on the following DNS name from within your cluster:
prometheus-alertmanager.prometheus.svc.cluster.local

Get the Alertmanager URL by running these commands in the same shell:
  export POD_NAME=$(kubectl get pods --namespace prometheus -l "app=prometheus,component=alertmanager" -o jsonpath="{.items[0].metadata.name}")
  kubectl --namespace prometheus port-forward $POD_NAME 9093

The Prometheus PushGateway can be accessed via port 9091 on the following DNS name from within your cluster:
prometheus-pushgateway.prometheus.svc.cluster.local

Get the PushGateway URL by running these commands in the same shell:
  export POD_NAME=$(kubectl get pods --namespace prometheus -l "app=prometheus,component=pushgateway" -o jsonpath="{.items[0].metadata.name}")
  kubectl --namespace prometheus port-forward $POD_NAME 9091

=============== Installation output

Check pods status:

```
[root@master ~]# kubectl get pods -n prometheus -o wide
NAME                                             READY   STATUS    RESTARTS   AGE     IP              NODE     NOMINATED NODE   READINESS GATES
prometheus-alertmanager-764bb7cb94-rjncv         2/2     Running   0          2m45s   10.32.0.3       worker   <none>           <none>
prometheus-kube-state-metrics-5486674d94-5rnxp   1/1     Running   0          2m45s   10.32.0.2       worker   <none>           <none>
prometheus-node-exporter-lct86                   1/1     Running   0          2m45s   192.168.1.75    worker   <none>           <none>
prometheus-pushgateway-84945b5668-w5nh5          1/1     Running   0          2m45s   10.32.0.4       worker   <none>           <none>
prometheus-server-6745867f5f-pc9b6               2/2     Running   0          2m45s   10.32.0.5       worker   <none>           <none>
[root@master ~]#
```

Export prometheus server port to access UI

export POD_NAME=$(kubectl get pods --namespace prometheus -l "app=prometheus,component=server" -o jsonpath="{.items[0].metadata.name}")
kubectl --namespace prometheus port-forward $POD_NAME 9090 --address 192.168.1.74 &