

Student ID:101452662

Lab-5

Microsoft Windows [Version 10.0.22621.3897]
(C) Microsoft Corporation. All rights reserved.

C:\Users\ADMIN>helm repo add prometheus-community https://prometheus-community.github.io/helm-charts
"prometheus-community" has been added to your repositories

C:\Users\ADMIN>helm repo update
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "prometheus-community" chart repository
...Successfully got an update from the "bitnami" chart repository
Update Complete. ✨Happy Helming!

C:\Users\ADMIN>helm install prometheus prometheus-community/prometheus
Error: INSTALLATION FAILED: Kubernetes cluster unreachable: Get "http://localhost:8080/version": dial tcp [::1]:8080: connect: No connection could be made because the target machine actively refused it.

C:\Users\ADMIN>helm install prometheus prometheus-community/prometheus
NAME: prometheus
LAST DEPLOYED: Tue Feb 6 16:58:47 2024
NAMESPACE: default
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.default.svc.cluster.local

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

The Prometheus alertmanager can be accessed via port 9093 on the following DNS name from within your cluster:
prometheus-alertmanager.default.svc.cluster.local

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

WARNING: Pod Security Policy has been disabled by default since
it deprecated after k8s 1.25+. use
(index .Values "prometheus-node-exporter" "rbac"
"pspEnabled") with (index .Values
"prometheus-node-exporter" "rbac" "pspAnnotations")
in case you still need it.

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

Queen St W
Clearing soon

Lab 5 - Monitoring - BDXLSCA - BCDV-4032/monitoring/demos - ChatGPT - Prometheus Time Series Collec - Alertmanager - Dashboards - Alertmanager (Grafana Labs)

http://localhost:9090/d/lea_9_uk/alertmanager?orgid=1&refresh=5m

Search or jump to...

Home Dashboards Alertmanager Docs GitHub Twitter Mailing list IRC

Prometheus datasource default Instance All Restarts

General info

Number of instances

N/A

Instance versions and up time

No data to show

Cluster size

N/A

Number of active alerts

N/A

Number of suppressed i

N/A

Number of active silenc

N/A

Notifications

Notifications sent from All

1

No data

avg. total

Notification durations per integration on All

1 s

No data

avg

Alerts

Active alerts in All

1

No data

2°C Sunny

The image shows a Windows desktop environment. In the foreground, a terminal window is open, displaying the following commands and their outputs:

```
C:\Users\ADMIN\kubectl get secret --namespace default grafana -o jsonpath="{.data.admin-password}" | ForEach-Object { [System.Text.Encoding]::Utf8.GetString([System.Convert]::FromBase64String($_)) }
'ForEach-Object' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\ADMIN\kubectl get secret --namespace default grafana -o jsonpath="{.data.admin-password}" | ForEach-Object { [System.Text.Encoding]::Utf8.GetString([System.Convert]::FromBase64String($_)) }
'ForEach-Object' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\ADMIN\kubectl get svc
NAME                                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)        AGE
grafana                            ClusterIP   10.96.152.49   <none>         80/TCP         2m56s
grafana-ext                        NodePort    10.109.196.34 <none>         80:32591/TCP   2m51s
kubernetes                         ClusterIP   10.96.0.1     <none>         443/TCP        5m1s
prometheus-alertmanager            ClusterIP   10.180.27.208 <none>         9093/TCP       4m48s
prometheus-alertmanager-headless   ClusterIP   None          <none>         9093/TCP       4m48s
prometheus-kube-state-metrics      ClusterIP   10.183.19.248 <none>         8080/TCP       4m48s
prometheus-prometheus-node-exporter ClusterIP    10.99.16.126  <none>         9100/TCP       4m48s
prometheus-prometheus-pushgateway ClusterIP    10.107.14.146 <none>         9091/TCP       4m48s
prometheus-server                  ClusterIP   10.110.43.28  <none>         80/TCP         4m48s
prometheus-server-ext              NodePort    10.97.192.52  <none>         80:31069/TCP   3m52s

C:\Users\ADMIN\kubectl port-forward prometheus-server-ext 80:3000
Error from server (NotFound): pods "prometheus-server-ext" not found

C:\Users\ADMIN\kubectl port-forward service/prometheus-server-ext 8080:3000
error: Service prometheus-server-ext does not have a service port 3000

C:\Users\ADMIN\kubectl get svc
NAME                                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)        AGE
grafana                            ClusterIP   10.96.152.49   <none>         80/TCP         5m54s
grafana-ext                        NodePort    10.109.196.34 <none>         80:32591/TCP   5m49s
kubernetes                         ClusterIP   10.96.0.1     <none>         443/TCP       7m59s
prometheus-alertmanager            ClusterIP   10.180.27.208 <none>         9093/TCP      7m46s
prometheus-alertmanager-headless   ClusterIP   None          <none>         9093/TCP      7m46s
prometheus-kube-state-metrics      ClusterIP   10.183.19.248 <none>         8080/TCP      7m46s
prometheus-prometheus-node-exporter ClusterIP    10.99.16.126  <none>         9100/TCP      7m46s
prometheus-prometheus-pushgateway ClusterIP    10.107.14.146 <none>         9091/TCP      7m46s
prometheus-server                  ClusterIP   10.110.43.28  <none>         80/TCP        7m46s
prometheus-server-ext              NodePort    10.97.192.52  <none>         80:31069/TCP  6m50s

C:\Users\ADMIN\kubectl port-forward service/prometheus-server-ext 8080:3000
error: Service prometheus-server-ext does not have a service port 3000

C:\Users\ADMIN\kubectl port-forward service/prometheus-server-ext 3000:80
Forwarding from 127.0.0.1:3000 -> 9090
Forwarding from [::1]:3000 -> 9090
Handling connection for 3000
Handling connection for 3000
Handling connection for 3000
```

In the background, the Prometheus web interface is visible, showing the 'Graph' tab with the expression 'sum(rate(container_cpu_usage_seconds_total{namespace="default"}))' and the 'Table' tab showing a list of metrics.

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\ADMIN> kubectl get secret --namespace default grafana -o jsonpath="{.data.admin-password}" | ForEach-Object { [System.Text.Encoding]::Utf8.GetString([System.Convert]::FromBase64String($_)) }
Rk9q2afew5WQuOpEYzW48Hu1z3Us6XJ86kVRZ8b
PS C:\Users\ADMIN> ^C
PS C:\Users\ADMIN> |

##### in case you still need it. #####
#####
#####

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

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

For more information on running Prometheus, visit:
https://prometheus.io/

C:\Users\ADMIN>kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
prometheus-alertmanager-0          0/1     Pending            0           12s
prometheus-kube-state-metrics-745b475957-hft4k  0/1     ContainerCreating  0           12s
prometheus-prometheus-node-exporter-ppojc  1/1     Running            0           12s
prometheus-prometheus-pushgateway-6ccdb9bd79-7bncs  0/1     ContainerCreating  0           12s
prometheus-server-5c99dfc5d7-csrrd  0/2     Pending            0           12s

C:\Users\ADMIN>kubectl get svc
NAME                                TYPE               CLUSTER-IP      EXTERNAL-IP    PORT(S)          AGE
kubernetes                         ClusterIP          10.96.0.1        <none>          443/TCP          34s
prometheus-alertmanager            ClusterIP          10.100.27.200    <none>          9093/TCP          21s
prometheus-alertmanager-headless   ClusterIP          None             <none>          9093/TCP          21s
prometheus-kube-state-metrics      ClusterIP          10.103.19.248    <none>          8080/TCP          21s
prometheus-prometheus-node-exporter ClusterIP          10.99.16.126     <none>          9108/TCP          21s
prometheus-prometheus-pushgateway  ClusterIP          10.107.14.146    <none>          9091/TCP          21s
prometheus-server                  ClusterIP          10.110.43.28     <none>          80/TCP           21s

C:\Users\ADMIN>kubectl expose service prometheus-server --type=NodePort --target-port=9090 --name=prometheus-server-ext
service/prometheus-server-ext exposed

C:\Users\ADMIN>kubectl get svc
NAME                                TYPE               CLUSTER-IP      EXTERNAL-IP    PORT(S)          AGE
kubernetes                         ClusterIP          10.96.0.1        <none>          443/TCP          76s
prometheus-alertmanager            ClusterIP          10.100.27.200    <none>          9093/TCP          63s
prometheus-alertmanager-headless   ClusterIP          None             <none>          9093/TCP          63s
prometheus-kube-state-metrics      ClusterIP          10.103.19.248    <none>          8080/TCP          63s
prometheus-prometheus-node-exporter ClusterIP          10.99.16.126     <none>          9108/TCP          63s
prometheus-prometheus-pushgateway  ClusterIP          10.107.14.146    <none>          9091/TCP          63s
prometheus-server                  ClusterIP          10.110.43.28     <none>          80/TCP           63s
prometheus-server-ext              NodePort           10.97.192.52     <none>          80:31669/TCP     7s

C:\Users\ADMIN>minikube ip
192.168.49.2

C:\Users\ADMIN>
```

```
Command Prompt
export POD_NAME=$(kubectl get pods --namespace default -l "app.kubernetes.io/name=prometheus,app.kubernetes.io/instance=prometheus" -o jsonpath="{.items[0].metadata.name}")
kubectl --namespace default port-forward $POD_NAME 9090

The Prometheus alertmanager can be accessed via port 9093 on the following DNS name from within your cluster:
prometheus-alertmanager.default.svc.cluster.local

Get the Alertmanager URL by running these commands in the same shell:
export POD_NAME=$(kubectl get pods --namespace default -l "app.kubernetes.io/name=alertmanager,app.kubernetes.io/instance=prometheus" -o jsonpath="{.items[0].metadata.name}")
kubectl --namespace default port-forward $POD_NAME 9093
##### WARNING: Pod Security Policy has been disabled by default since #####
##### it deprecated after k8s 1.25+. use #####
##### (index .Values "prometheus-node-exporter" "rbac" #####
##### "pspEnabled") with (index .Values #####
##### "prometheus-node-exporter" "rbac" "pspAnnotations") #####
##### in case you still need it. #####
#####

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

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

For more information on running Prometheus, visit:
https://prometheus.io/

C:\Users\ADMIN>kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
prometheus-alertmanager-0           0/1     Pending   0           12s
prometheus-kube-state-metrics-745b479567-hftuk  0/1     ContainerCreating   0           12s
prometheus-prometheus-node-exporter-pp6jc      1/1     Running   0           12s
prometheus-prometheus-pushgateway-6ccd698d79-7bncs  0/1     ContainerCreating   0           12s
prometheus-server-5c99dfc547-csrrd             0/2     Pending   0           12s

C:\Users\ADMIN>kubectl get svc
NAME                                TYPE               CLUSTER-IP      EXTERNAL-IP    PORT(S)          AGE
kubernetes                         ClusterIP          10.96.0.1        <none>         443/TCP          34s
prometheus-alertmanager            ClusterIP          10.180.27.289    <none>         9093/TCP          21s
prometheus-alertmanager-headless   ClusterIP          None             <none>         9093/TCP          21s
prometheus-kube-state-metrics       ClusterIP          10.183.19.248    <none>         8088/TCP          21s
prometheus-prometheus-node-exporter ClusterIP          10.99.16.126     <none>         9108/TCP          21s
prometheus-prometheus-pushgateway   ClusterIP          10.197.14.146    <none>         9091/TCP          21s
prometheus-server                   ClusterIP          10.110.43.28     <none>         80/TCP           21s

C:\Users\ADMIN>
```