

BCDV

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Term: Winter 2024

BCDV 4032 – Building Scalable Blockchain Apps

Lab-5

Section-1: Screenshots

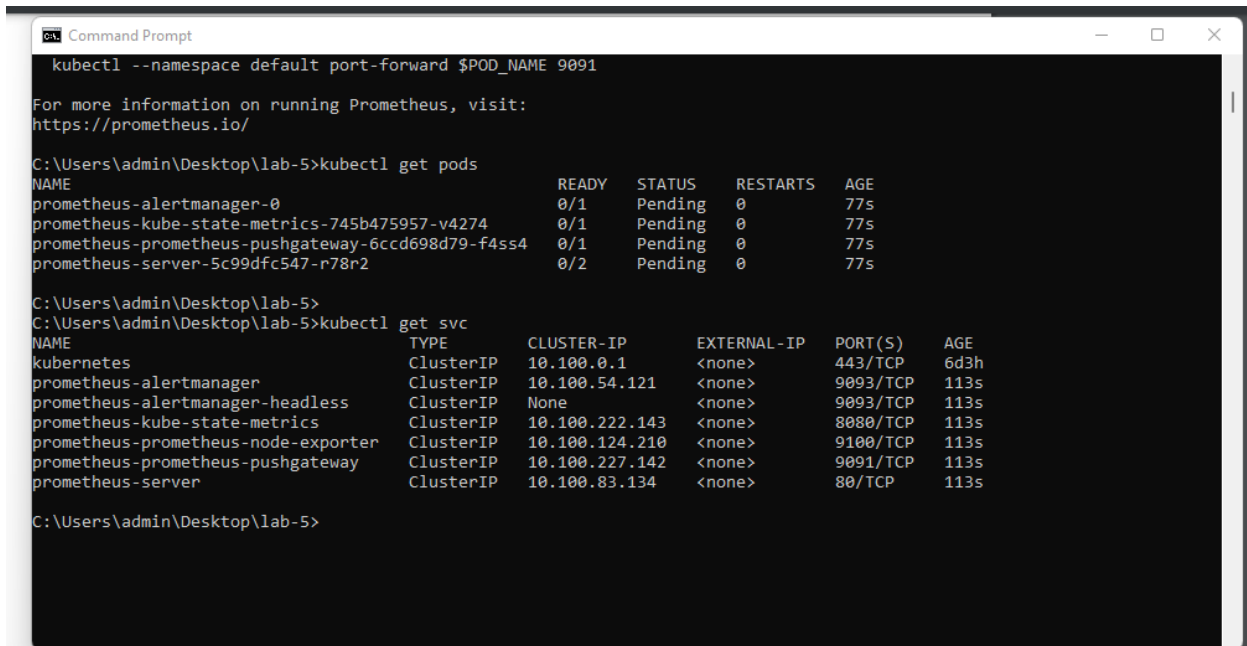
```
C:\Users\admin\Desktop\lab-5>helm repo add prometheus-community https://prometheus-community.github.io/helm-charts/
"prometheus-community" has been added to your repositories

C:\Users\admin\Desktop\lab-5>helm repo update
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "prometheus-community" chart repository
Update Complete. 🎉Happy Helming!🎉

C:\Users\admin\Desktop\lab-5>helm install prometheus prometheus-community/prometheus
NAME: prometheus
LAST DEPLOYED: Mon Feb 5 19:45:47 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:
```



```
Command Prompt

kubectl --namespace default port-forward $POD_NAME 9091

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

C:\Users\admin\Desktop\lab-5>kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
prometheus-alertmanager-0           0/1     Pending   0           77s
prometheus-kube-state-metrics-745b475957-v4274  0/1     Pending   0           77s
prometheus-prometheus-pushgateway-6ccd698d79-f4ss4  0/1     Pending   0           77s
prometheus-server-5c99dfc547-r78r2      0/2     Pending   0           77s

C:\Users\admin\Desktop\lab-5>
C:\Users\admin\Desktop\lab-5>kubectl get svc
NAME                                TYPE           CLUSTER-IP      EXTERNAL-IP  PORT(S)          AGE
kubernetes                          ClusterIP      10.100.0.1       <none>       443/TCP          6d3h
prometheus-alertmanager              ClusterIP      10.100.54.121    <none>       9093/TCP          113s
prometheus-alertmanager-headless     ClusterIP      None             <none>       9093/TCP          113s
prometheus-kube-state-metrics        ClusterIP      10.100.222.143   <none>       8080/TCP          113s
prometheus-prometheus-node-exporter  ClusterIP      10.100.124.210   <none>       9100/TCP          113s
prometheus-prometheus-pushgateway    ClusterIP      10.100.227.142   <none>       9091/TCP          113s
prometheus-server                    ClusterIP      10.100.83.134    <none>       80/TCP           113s

C:\Users\admin\Desktop\lab-5>
```

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```

C:\Command Prompt
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "grafana" chart repository
...Successfully got an update from the "prometheus-community" chart repository
Update Complete. 🌟Happy Helming!🌟

C:\Users\admin\Desktop\lab-5>helm install grafana grafana/grafana
NAME: grafana
LAST DEPLOYED: Mon Feb  5 19:49:40 2024
NAMESPACE: default
STATUS: deployed
REVISION: 1
NOTES:
1. Get your 'admin' user password by running:

    kubectl get secret --namespace default grafana -o jsonpath="{.data.admin-password}" | base64 --decode ; echo

2. The Grafana server can be accessed via port 80 on the following DNS name from within your cluster:

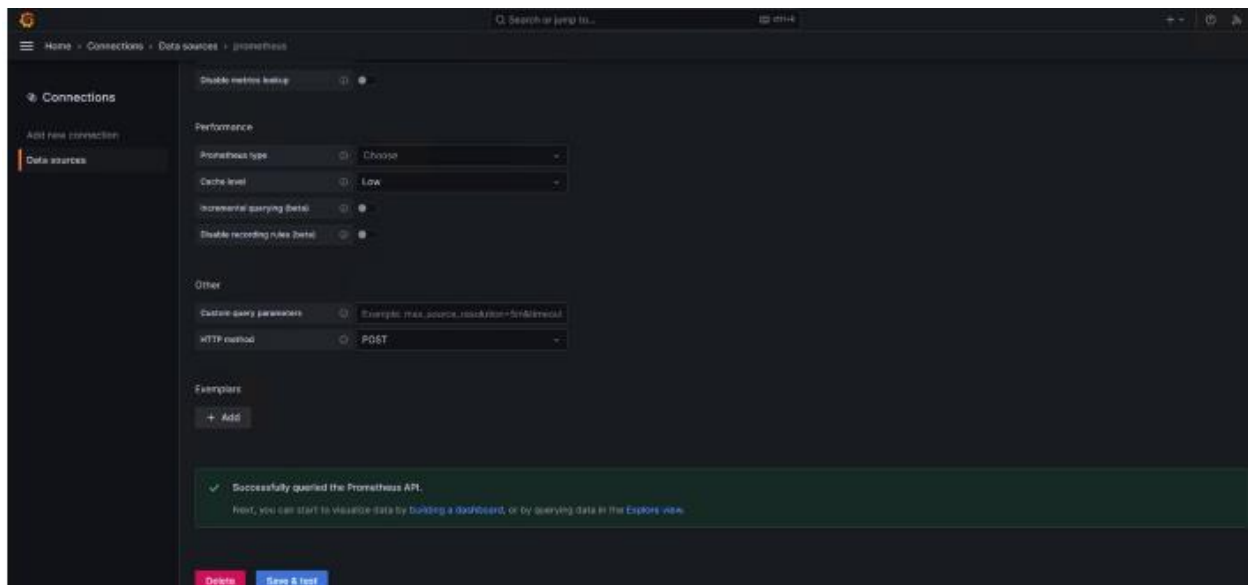
    grafana.default.svc.cluster.local

    Get the Grafana URL to visit by running these commands in the same shell:
    export POD_NAME=$(kubectl get pods --namespace default -l "app.kubernetes.io/name=grafana,app.kubernetes.io/instance=grafana" -o jsonpath="{.items[0].metadata.name}")
    kubectl --namespace default port-forward $POD_NAME 3000

3. Login with the password from step 1 and the username: admin

#####
##### WARNING: Persistence is disabled!!! You will lose your data when #####
##### the Grafana pod is terminated. #####
##### kubectl port-forward prometheus-server-6666666666 -n prometheus #####

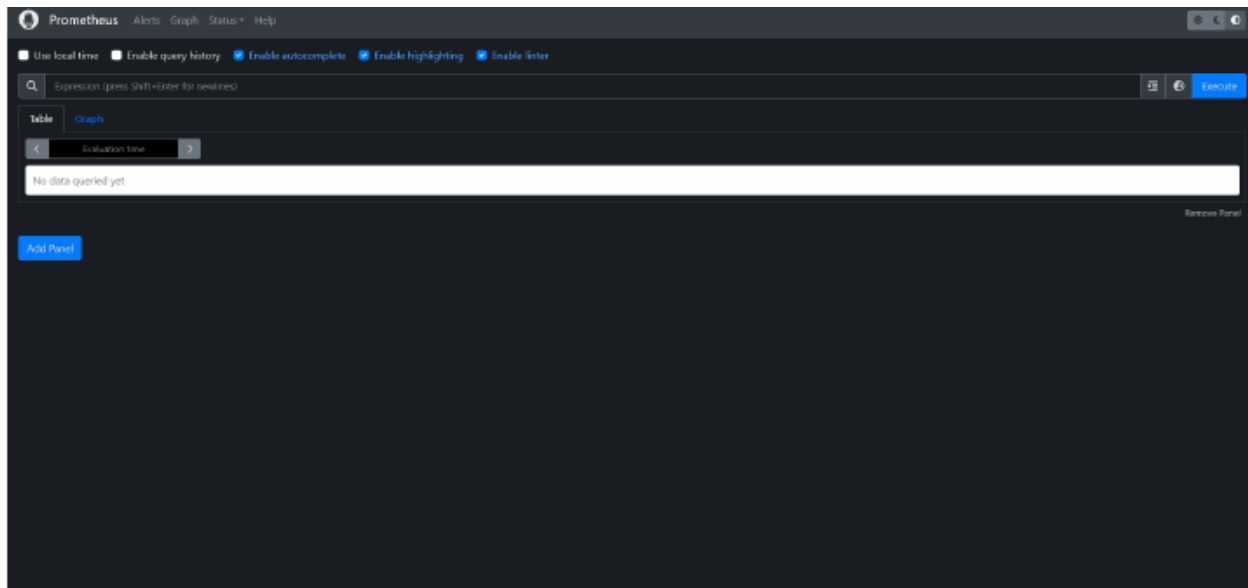
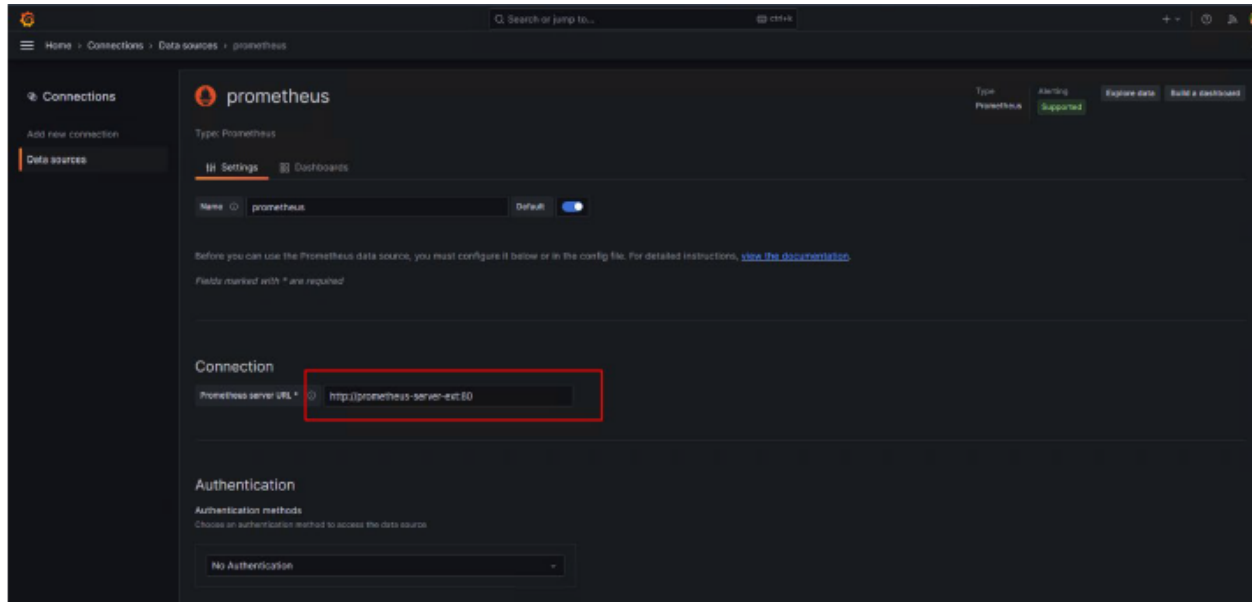
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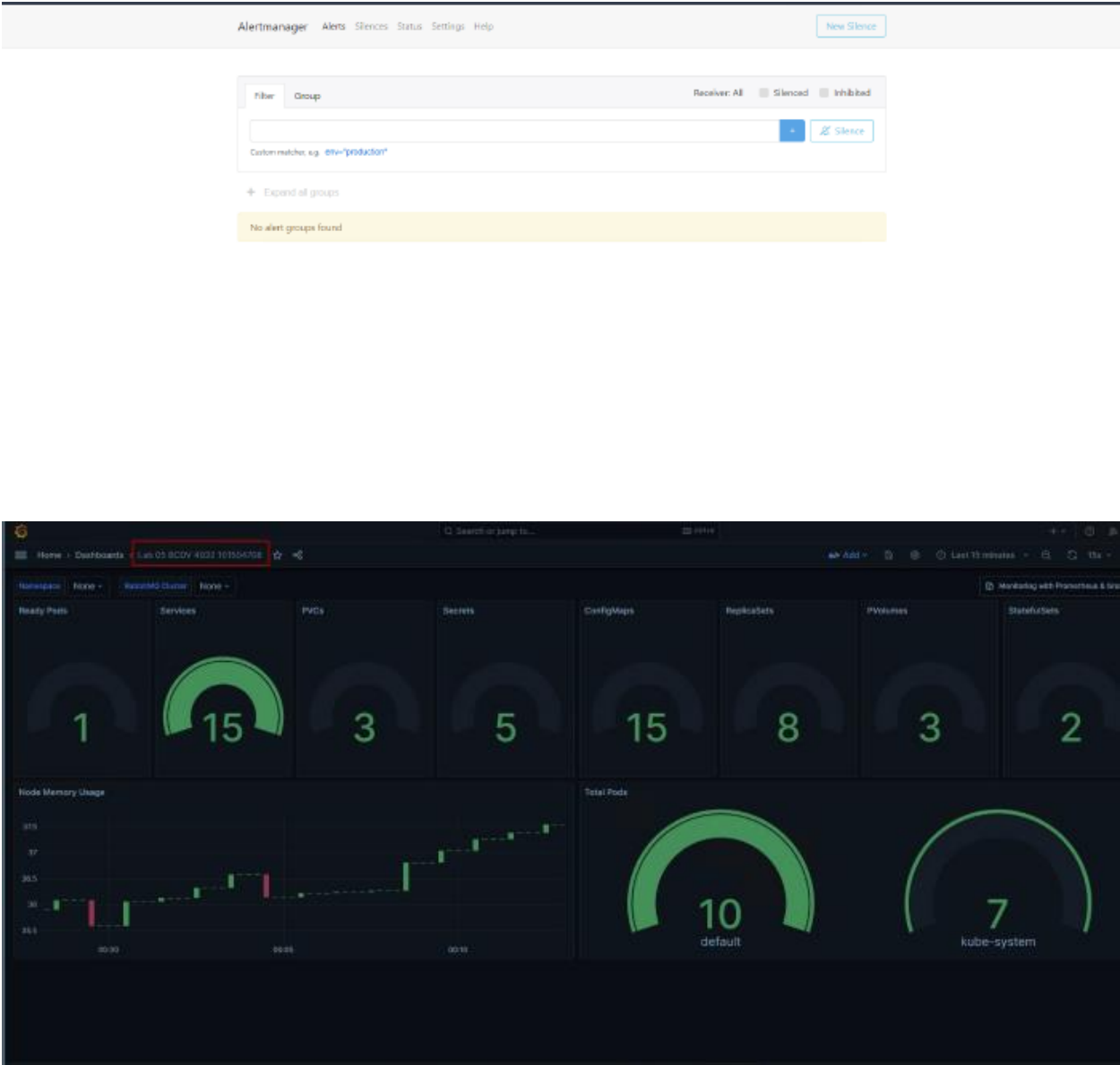
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Section-2: Commands

- **helm repo add prometheus-community https://prometheus-community.github.io/helm-charts**
- **helm repo update**
- **helm install prometheus prometheus-community/prometheus**
- **kubectl get pods**
- **kubectl get svc**
- **kubectl expose service prometheus-server --type=NodePort --target-port=9090 --name=prometheus-server-ext**
- **helm repo add grafana https://grafana.github.io/helm-charts**
- **helm repo update**
- **helm install grafana grafana/grafana**
- **kubectl expose service grafana --type=NodePort --target-port=3000 --name=grafana-ext**
- **kubectl get secret --namespace default grafana -o jsonpath="{.data.admin-password}" | ForEach-Object {[System.Text.Encoding]::UTF8.GetString([System.Convert]::FromBase64String(\$_))}**
- ***http://prometheus-server-ext:80***
- **kubectl port-forward grafana-6dcfdc8db4-nlx6p 3000**
- **kubectl port-forward prometheus-server-5c99dfc547-px7fc 9090**
- **kubectl port-forward prometheus-alertmanager-0 9093**
- ***PromQL queries***
 - ***count(kube_secret_info)***
 - ***count(kube_replicaset_created)***
 - ***count(kube_statefulset_created)***
 - ***count(kube_configmap_info)***
 - ***count(kube_role_info)***
 - ***count(kube_rolebinding_info)***

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- ***count(kube\_persistentvolume\_info)***
  - ***count(kube\_persistentvolumeclaim\_info)***
  - ***count(kube\_service\_info)***
  - ***sum(count by(service) (kube\_service\_spec\_ports\_port))***