

Install Helm using brew

```
hafelago@DESKTOP-208TC4I:~$ brew install helm
=> Auto-updating Homebrew...
Adjust how often this is run with HOMEBREW_AUTO_UPDATE_SECS or disable with
HOMEBREW_NO_AUTO_UPDATE. Hide these hints with HOMEBREW_NO_ENV_HINTS (see 'man brew').
=> Homebrew collects anonymous analytics.
Read the analytics documentation (and how to opt-out) here:
  https://docs.brew.sh/Analytics
No analytics have been recorded yet (nor will be during this 'brew' run).

=> Homebrew is run entirely by unpaid volunteers. Please consider donating:
  https://github.com/Homebrew/brew#donations

=> Auto-updated Homebrew!
Updated 2 taps (homebrew/core and homebrew/cask).
=> New Formulae
  apache-flink-cdc      jsontoolkit          nvtop                pedump               vedic
  cloudflare-cli4       libvirt-python       ocicl               span-lite
  haproxy@2.8           llama.cpp            openfa              stripe-cli

=> New Casks
  bias-fx                font-playwrite-au-vic  font-playwrite-in    font-playwrite-us-trad
  blitz-gg               font-playwrite-ca      font-playwrite-it-moderna  font-playwrite-za
  canon-ufrii-driver     font-playwrite-de-la   font-playwrite-it-trad    hopper-disassembler
  core-tunnel            font-playwrite-es      font-playwrite-mx        mac-mouse-fix@2
  font-playwrite-au-nsw   font-playwrite-es-deco font-playwrite-ng-modern  nessus
  font-playwrite-au-qld   font-playwrite-fr-moderne  font-playwrite-nz
  font-playwrite-au-sa    font-playwrite-id       font-playwrite-tz
  font-playwrite-au-tas   font-playwrite-ie       font-playwrite-us-modern
```

Helm version

```
hafelago@DESKTOP-208TC4I:~$ helm version
version.BuildInfo{Version:"v3.15.1", GitCommit:"e211f2aa62992bd72586b395de50979e31231829", GitTreeState:"clean", GoVersion:"go1.22.3"}
hafelago@DESKTOP-208TC4I:~$
```

Install prometheus

```
hafelago@DESKTOP-208TC4I:~$ helm repo add prometheus-community https://prometheus-community.github.io/helm-charts
"prometheus-community" already exists with the same configuration, skipping
hafelago@DESKTOP-208TC4I:~$ helm install my-prometheus prometheus-community/prometheus --version 25.21.0
NAME: my-prometheus
LAST DEPLOYED: Sat Jun 1 14:20:32 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:
my-prometheus-server.default.svc.cluster.local
```

```
h@felago@DESKTOP-208TC4I:~$ kubectl get all
NAME                                     READY   STATUS    RESTARTS   AGE
pod/my-prometheus-alertmanager-0        1/1     Running   0           4m40s
pod/my-prometheus-kube-state-metrics-586d9754b8-67gsk  1/1     Running   0           4m40s
pod/my-prometheus-prometheus-node-exporter-7zfw5      1/1     Running   0           4m40s
pod/my-prometheus-prometheus-pushgateway-54b7f4fd4c-pbvcp  1/1     Running   0           4m40s
pod/my-prometheus-server-56dc5c5fbd-dhmvj            2/2     Running   0           4m40s

NAME                                     TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
service/kubernetes                      ClusterIP      10.96.0.1        <none>            443/TCP          62m
service/my-prometheus-alertmanager      ClusterIP      10.104.226.142   <none>            9093/TCP          4m40s
service/my-prometheus-alertmanager-headless ClusterIP      None             <none>            9093/TCP          4m40s
service/my-prometheus-kube-state-metrics ClusterIP      10.106.240.161   <none>            8080/TCP          4m40s
service/my-prometheus-prometheus-node-exporter ClusterIP      10.104.136.74    <none>            9100/TCP          4m40s
service/my-prometheus-prometheus-pushgateway ClusterIP      10.102.87.29     <none>            9091/TCP          4m40s
service/my-prometheus-server            ClusterIP      10.111.74.254    <none>            80/TCP            4m40s

NAME                                     DESIRED   CURRENT   READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR   AGE
daemonset.apps/my-prometheus-prometheus-node-exporter 1          1         1       1             1           kubernetes.io/os=linux 4m40s

NAME                                     READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/my-prometheus-kube-state-metrics      1/1     1             1           4m40s
deployment.apps/my-prometheus-prometheus-pushgateway 1/1     1             1           4m40s
deployment.apps/my-prometheus-server                  1/1     1             1           4m40s

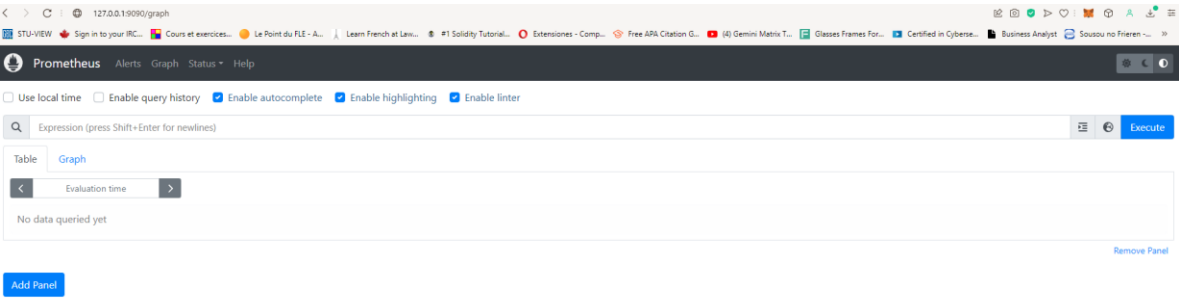
NAME                                     DESIRED   CURRENT   READY   AGE
replicaset.apps/my-prometheus-kube-state-metrics-586d9754b8 1          1         1       4m40s
replicaset.apps/my-prometheus-prometheus-pushgateway-54b7f4fd4c 1          1         1       4m40s
replicaset.apps/my-prometheus-server-56dc5c5fbd             1          1         1       4m40s

NAME                                     READY   AGE
statefulset.apps/my-prometheus-alertmanager 1/1     4m40s
h@felago@DESKTOP-208TC4I:~$
```

```
h@felago@DESKTOP-208TC4I:~$ helm ls --all-namespaces
NAME            NAMESPACE    REVISION    UPDATED                               STATUS          CHART              APP VERSION
my-prometheus   default       1           2024-06-01 14:20:32.231965846 -0400 EDT deployed        prometheus-25.21.0 v2.52.0
h@felago@DESKTOP-208TC4I:~$
```

```
h@felago@DESKTOP-208TC4I:~$ export POD_NAME=$(kubectl get pods --namespace default -l "app.kubernetes.io/name=prometheus,app.kubernetes.io/instance=my-prometheus" -o jsonpath="{.items[0].metadata.name}")
h@felago@DESKTOP-208TC4I:~$ kubectl --namespace default port-forward $POD_NAME 9090
Forwarding from 127.0.0.1:9090 -> 9090
Forwarding from [::1]:9090 -> 9090
Handling connection for 9090
Handling connection for 9090
Handling connection for 9090
```

prometheus



Expose prometheus server

```

hafelago@DESKTOP-208TC4I:~$ kubectl get services --namespace default
NAME                                TYPE        CLUSTER-IP      EXTERNAL-IP  PORT(S)    AGE
kubernetes                          ClusterIP    10.96.0.1        <none>       443/TCP    74m
my-prometheus-alertmanager          ClusterIP    10.104.226.142   <none>       9093/TCP    17m
my-prometheus-alertmanager-headless ClusterIP     None             <none>       9093/TCP    17m
my-prometheus-kube-state-metrics    ClusterIP    10.106.240.161   <none>       8080/TCP    17m
my-prometheus-prometheus-node-exporter ClusterIP     10.104.136.74    <none>       9100/TCP    17m
my-prometheus-prometheus-pushgateway ClusterIP     10.102.87.29     <none>       9091/TCP    17m
my-prometheus-server                ClusterIP    10.111.74.254    <none>       80/TCP      17m
hafelago@DESKTOP-208TC4I:~$ kubectl expose service my-prometheus-server --type=NodePort --target-port=9090 --name=prometheus-server-ext
service/prometheus-server-ext exposed
hafelago@DESKTOP-208TC4I:~$

```

Check the service

```

hafelago@DESKTOP-208TC4I:~$ kubectl expose service my-prometheus-server --type=NodePort --target-port=9090 --name=prometheus-server-ext
service/prometheus-server-ext exposed
hafelago@DESKTOP-208TC4I:~$ kubectl get svc
NAME                                TYPE        CLUSTER-IP      EXTERNAL-IP  PORT(S)    AGE
kubernetes                          ClusterIP    10.96.0.1        <none>       443/TCP    76m
my-prometheus-alertmanager          ClusterIP    10.104.226.142   <none>       9093/TCP    18m
my-prometheus-alertmanager-headless ClusterIP     None             <none>       9093/TCP    18m
my-prometheus-kube-state-metrics    ClusterIP    10.106.240.161   <none>       8080/TCP    18m
my-prometheus-prometheus-node-exporter ClusterIP     10.104.136.74    <none>       9100/TCP    18m
my-prometheus-prometheus-pushgateway ClusterIP     10.102.87.29     <none>       9091/TCP    18m
my-prometheus-server                ClusterIP    10.111.74.254    <none>       80/TCP      18m
prometheus-server-ext              NodePort     10.100.111.92    <none>       80:30183/TCP 73s
hafelago@DESKTOP-208TC4I:~$

```

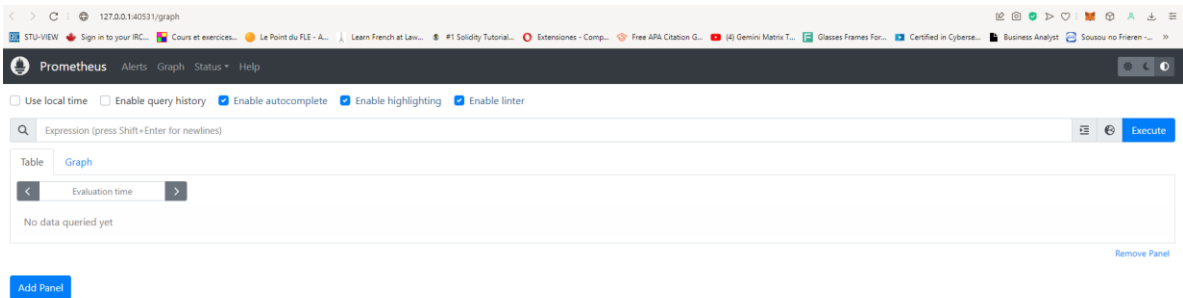
Minikube IP

```

hafelago@DESKTOP-208TC4I:~$ minikube ip
192.168.49.2
hafelago@DESKTOP-208TC4I:~$

```

Prometheus Server



Grafana

```
hafeLago@DESKTOP-208TC4I:~$ helm repo add grafana https://grafana.github.io/helm-charts
"grafana" has been added to your repositories
hafeLago@DESKTOP-208TC4I:~$ helm repo list
NAME                URL
prometheus-community https://prometheus-community.github.io/helm-charts
grafana              https://grafana.github.io/helm-charts
hafeLago@DESKTOP-208TC4I:~$ helm repo update
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!🎉
hafeLago@DESKTOP-208TC4I:~$ helm repo list
NAME                URL
prometheus-community https://prometheus-community.github.io/helm-charts
grafana              https://grafana.github.io/helm-charts
hafeLago@DESKTOP-208TC4I:~$ helm install grafana grafana/grafana
NAME: grafana
LAST DEPLOYED: Sat Jun 1 15:56:13 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

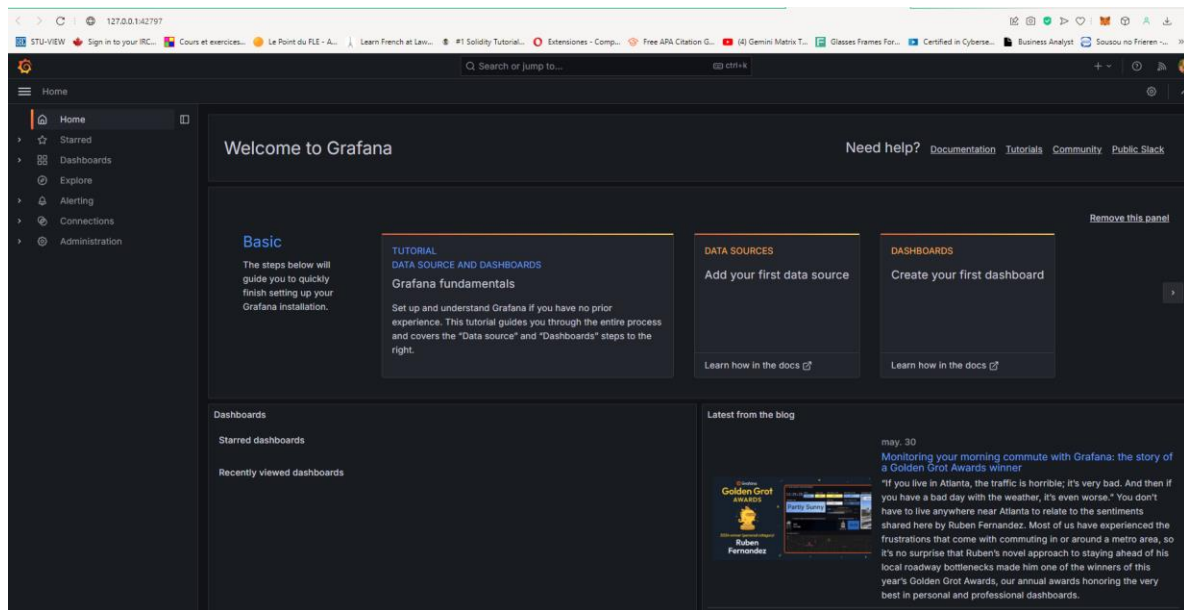
3. Login with the password from step 1 and the username: admin

#####
##### WARNING: Persistence is disabled!!! You will lose your data when #####
##### the Grafana pod is terminated. #####
#####
hafeLago@DESKTOP-208TC4I:~$
```


```
hafeLago@DESKTOP-208TC4I:~$ kubectl get svc
NAME                TYPE                CLUSTER-IP          EXTERNAL-IP          PORT(S)              AGE
grafana              ClusterIP           10.96.173.78         <none>                80/TCP                3m55s
grafana-ext          NodePort            10.111.75.114        <none>                80:31664/TCP          10s
kubernetes           ClusterIP           10.96.0.1            <none>                443/TCP                157m
my-prometheus-alertmanager ClusterIP           10.104.226.142       <none>                9093/TCP               99m
my-prometheus-alertmanager-headless ClusterIP           None                 <none>                9093/TCP               99m
my-prometheus-kube-state-metrics ClusterIP           10.106.240.161       <none>                8080/TCP               99m
my-prometheus-prometheus-node-exporter ClusterIP           10.104.136.74        <none>                9100/TCP               99m
my-prometheus-prometheus-pushgateway ClusterIP           10.102.87.29         <none>                9091/TCP               99m
my-prometheus-server ClusterIP            10.111.74.254        <none>                80/TCP                 99m
prometheus-server-ext NodePort            10.100.111.92        <none>                80:30183/TCP           81m
hafeLago@DESKTOP-208TC4I:~$
```

Get password

```
hafeLago@DESKTOP-208TC4I:~$ kubectl get secret --namespace default grafana -o jsonpath="{.data.admin-password}" | base64
--decode ; echo
GEWzqRwFEVrBnsAYFdTmvKze25ENuShYsZzPcXLs
hafeLago@DESKTOP-208TC4I:~$
```



Connect Prometheus as Data source to Grafana

 **prometheus**

Type: Prometheus

Settings

Dashboards

Name ⓘ

prometheus

Default

☒

Before you can use the Prometheus data source, you must configure it below or in the config file. For detailed instructions, [view the documentation](#).

Fields marked with * are required

Connection

Prometheus server URL *

Http://192.168.49.2:30183

Please enter a valid URL

Authentication

Authentication methods

Choose an authentication method to access the data source

Other

Custom query parameters ⓘ

Example: max_source_resolution=5m&timeout

HTTP method ⓘ

POST

Exemplars

+ Add

✓ Successfully queried the Prometheus API.

Next, you can start to visualize data by [building a dashboard](#), or by querying data in the [Explore view](#).

Delete

Save & test

Graffana Dashboard using query from prometheus

