

# Grafana

[Grafana](#) is a common way to visualize information from multiple source systems, including [Prometheus](#). It offers a user friendly

## Running Grafana

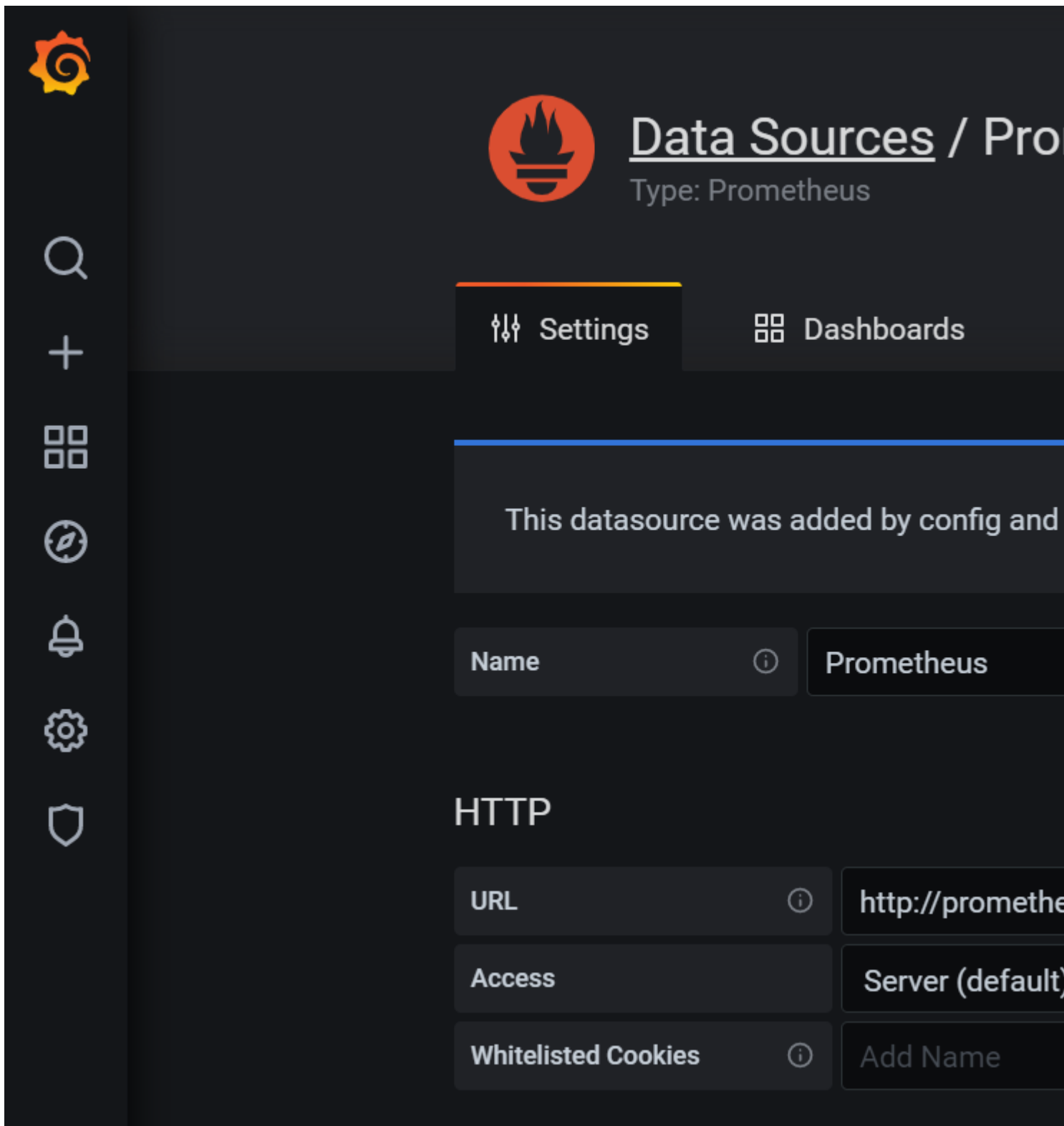
Like Prometheus before, Grafana can be run in a container:

```
docker run -d \  
-p 3000:3000 \  
grafana/grafana
```

This will launch Grafana on port 3000 of your node.

## Setting up Grafana with Prometheus

Grafana is an aggregator for information from many different systems. Data sources can be configured in the Configuration page. In the previous exercise you can leave everything else on default settings.



## Creating a CPU graph

Once you have the data source set up you can create a new dashboard and add a panel. The panel can have different visualizations. In addition, you can also provide sophisticated legend information, such as `` to list the instance name.



New dashboard / Edit Panel

Fill

Fi

Panel Title

0.0045

0.0040

0.0035

0.0030

0.0025

0.0020

23:38:00

23:38:30

23:39:00

23:39:30

23:40:00

23:40:30

— 194.182.174.84:9100



Query

1



Transform

0



Alert

0



Prometheus



Query options

MD = auto = 829

On the right hand side you can adjust various display options, for example what range and display format the Axis' should h

## Creating an alert

In the same interface as above you can create an alert. The alert will allow you to set an evaluation period to determine how triggered.



## New dashboard / Edit Panel

Fill

Fi

Panel Title

1.0

0.8

0.6

0.4

0.2

0

23:38:00

23:38:30

23:39:00

23:39:30

23:40:00

23:40:30

23:41:00

— 194.182.174.84:9100



Query

1



Transform

0



Alert

0

Rule

Name

CPU Usage

Evaluate

You can also set up notifications to send the alert to various notification channels. This functionality can be used to trigger the

## Setting up a notification channel

Before you can set up an alert notification you have to create a notification channel. This can be done from the left hand menu. Click on "Alerts" and then "Notification Channels". You can create a new channel by clicking on the "+" icon. You can also edit an existing channel by clicking on the "Edit" icon. Finally, you should also set up the "Send reminders" option to keep triggering the



# Alerting

Alert rules & notifications

Alert Rules

Notification channels

## Edit Notification Channel

Name

Scale up

Type

webhook

Default (send on all alerts)



Include image



Disable Resolve Message



Send reminders



Send reminder every



2m

Alert reminders are sent after rules are evaluated. Reminders can never be sent more frequently than a rule's evaluation interval.

## Webhook settings

Url

http://autoscaler:8080

Http Method

POST

## Deploying Grafana in an automated fashion

Since our project work revolves around Terraform we need a way to deploy Grafana with all settings in an automated fashion.

### Provisioning data sources

To provision data sources we must place or mount the data source configuration file in the `/etc/grafana/provisioning/datasources` directory.

```
apiVersion: 1
datasources:
- name: Prometheus
  type: prometheus
  access: proxy
  orgId: 1
  url: http://prometheus:9090
  version: 1
  editable: false
```

### Provisioning a notification channel

Notification channels can also be provisioned by placing the appropriate YAML file in `/etc/grafana/provisioning/notifications` directory.

```
notifiers:
- name: Scale up
  type: webhook
  uid: scale-up
  org_id: 1
  is_default: false
  send_reminder: true
  disable_resolve_message: true
  frequency: "2m"
  settings:
    autoResolve: true
    httpMethod: "POST"
    severity: "critical"
    uploadImage: false
    url: "http://autoscaler:8090/up"
```

Note, that the `uid` field of the notifier matters as this will be referenced from the dashboard.

### Provisioning dashboards

Provisioning dashboards is slightly more complex. As a first step we must tell Grafana to look in a certain directory for the dashboard files.

```
apiVersion: 1

providers:
- name: 'Home'
  orgId: 1
  folder: ''
  type: file
  updateIntervalSeconds: 10
  options:
    path: /etc/grafana/dashboards
```

We can then place the dashboard JSON file in the specified directory. The easiest way to create a JSON file is to manually