

## Checking Docker-compose:

```
root@Bryan: /home/bryan
root@Bryan:/home/bryan# docker-compose --help
Define and run multi-container applications with Docker.

Usage:
  docker-compose [-f <arg>...] [options] [COMMAND] [ARGS...]
  docker-compose -h|--help

Options:
  -f, --file FILE             Specify an alternate compose file (default: docker-compose.yml)
  -p, --project-name NAME     Specify an alternate project name (default: directory name)
  --verbose                   Show more output
  --no-ansi                   Do not print ANSI control characters
  -v, --version               Print version and exit
  -H, --host HOST             Daemon socket to connect to

  --tls                       Use TLS; implied by --tlsverify
  --tlscacert CA_PATH        Trust certs signed only by this CA
  --tlscert CLIENT_CERT_PATH Path to TLS certificate file
  --tlskey TLS_KEY_PATH      Path to TLS key file
  --tlsverify                 Use TLS and verify the remote
  --skip-hostname-check       Don't check the daemon's hostname against the name specified
                              in the client certificate (for example if your docker host
                              is an IP address)
  --project-directory PATH    Specify an alternate working directory
                              (default: the path of the Compose file)

Commands:
  build                       Build or rebuild services
  bundle                      Generate a Docker bundle from the Compose file
  config                      Validate and view the Compose file
```

## Create the compose file:

```
root@Bryan:/home/bryan/docker-homework# cat docker-compose.yml
version: '3.8'

networks:
  monitoring:
    driver: bridge

volumes:
  prometheus_data: {}

services:
  node-exporter:
    image: prom/node-exporter:latest
    container_name: node-exporter
    restart: unless-stopped
    volumes:
      - /proc:/host/proc:ro
      - /sys:/host/sys:ro
      - /:/rootfs:ro
    command:
      - '--path.procfs=/host/proc'
      - '--path.rootfs=/rootfs'
      - '--path.sysfs=/host/sys'
      - '--collector.filesystem.mount-points-exclude=^/(sys|proc|dev|host|etc)($$|/)'
    expose:
      - 9100
    networks:
      - monitoring

  prometheus:
    image: prom/prometheus:latest
    container_name: prometheus
    restart: unless-stopped
    volumes:
      - ./prometheus.yml:/etc/prometheus/prometheus.yml
      - prometheus_data:/prometheus
    command:
      - '--config.file=/etc/prometheus/prometheus.yml'
      - '--storage.tsdb.path=/prometheus'
      - '--web.console.libraries=/etc/prometheus/console_libraries'
      - '--web.console.templates=/etc/prometheus/consoles'
      - '--web.enable-lifecycle'
    expose:
      - 9090
    networks:
      - monitoring
```

The next thing to do is create the prometheus configuration file

```

root@Bryan:/home/bryan/docker-homework# cat prometheus.yml
global:
  scrape_interval:     15s

scrape_configs:
- job_name: "prometheus"
  scrape_interval: 5s
  static_configs:
    - targets: ["localhost:9090"]

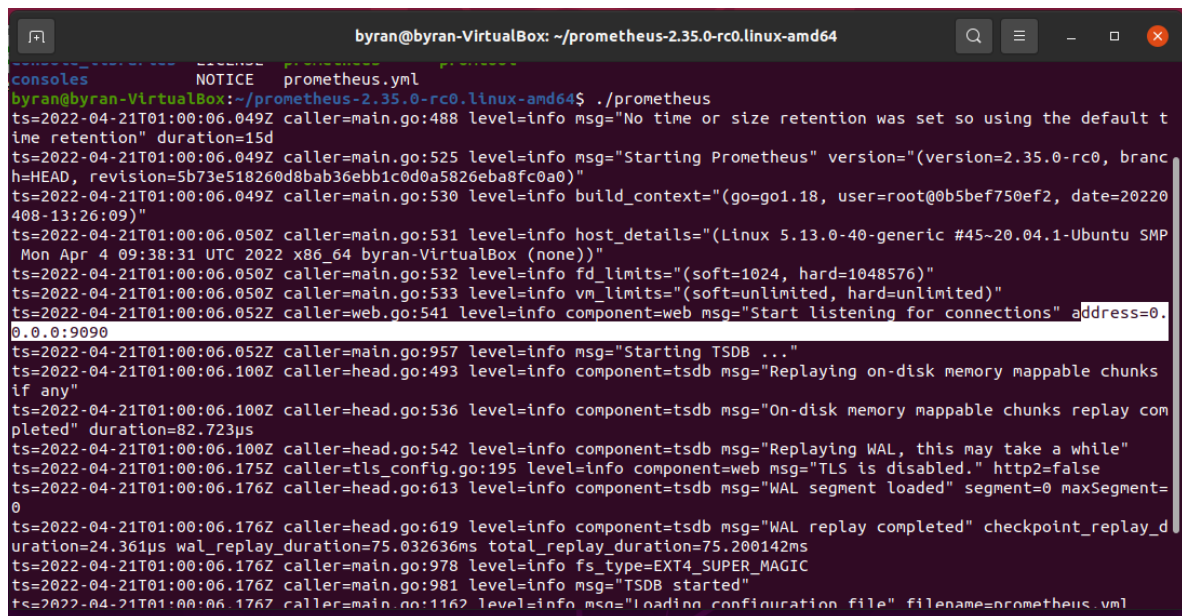
- job_name: "node"
  static_configs:
    - targets: ["node-exporter:9100"]

remote_write:
- url: "<Your Prometheus remote_write endpoint>"
  basic_auth:
    username: "<Your Grafana Username>"
    password: "<Your Grafana API key>"
root@Bryan:/home/bryan/docker-homework#

```

In this fields you need to put your grafana username, and your grafana password (admin, admin for default).

After the installation of prometheus the next thing to do is run prometheus

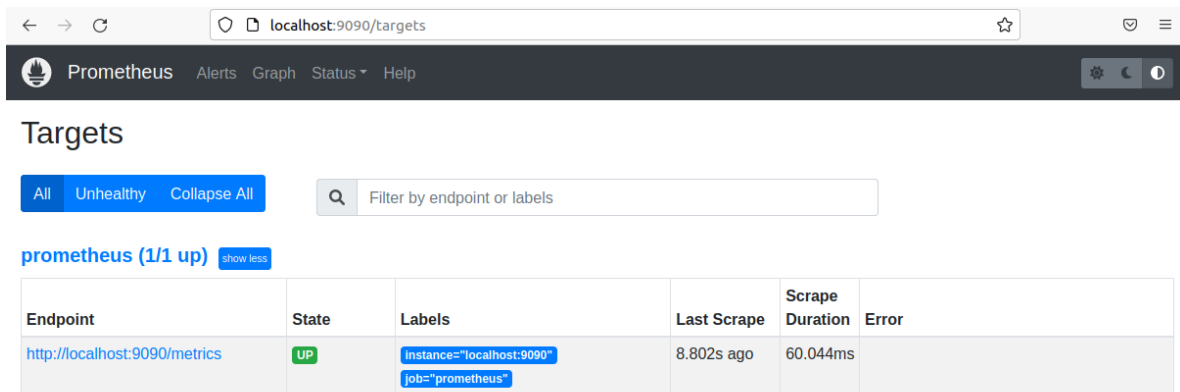


```

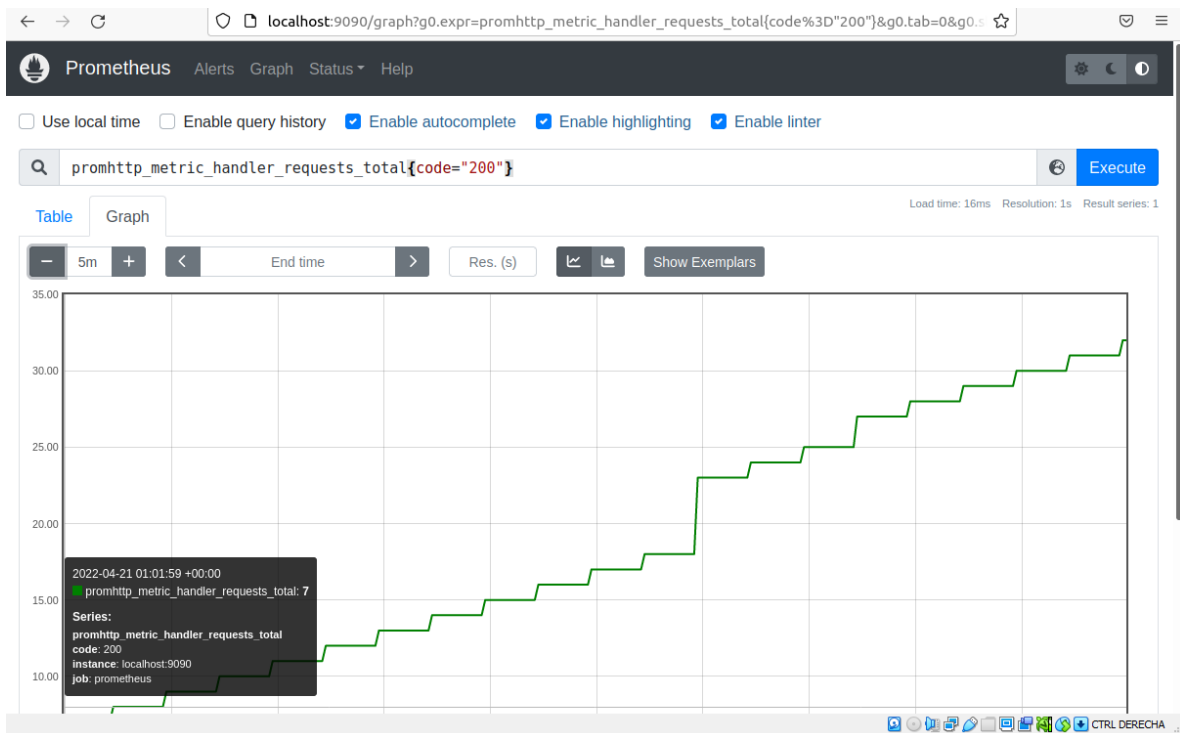
byran@byran-VirtualBox: ~/prometheus-2.35.0-rc0.linux-amd64
consoles NOTICE prometheus.yml
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ ./prometheus
ts=2022-04-21T01:00:06.049Z caller=main.go:488 level=info msg="No time or size retention was set so using the default time retention" duration=15d
ts=2022-04-21T01:00:06.049Z caller=main.go:525 level=info msg="Starting Prometheus" version="(version=2.35.0-rc0, branch=HEAD, revision=5b73e518260d8bab36ebbc0d0a5826eba8fc0a0)"
ts=2022-04-21T01:00:06.049Z caller=main.go:530 level=info build_context="(go=go1.18, user=root@0b5bef750ef2, date=20220408-13:26:09)"
ts=2022-04-21T01:00:06.050Z caller=main.go:531 level=info host_details="(Linux 5.13.0-40-generic #45~20.04.1-Ubuntu SMP Mon Apr 4 09:38:31 UTC 2022 x86_64 byran-VirtualBox (none))"
ts=2022-04-21T01:00:06.050Z caller=main.go:532 level=info fd_limits="(soft=1024, hard=1048576)"
ts=2022-04-21T01:00:06.050Z caller=main.go:533 level=info vm_limits="(soft=unlimited, hard=unlimited)"
ts=2022-04-21T01:00:06.052Z caller=web.go:541 level=info component=web msg="Start listening for connections" address=0.0.0.0:9090
ts=2022-04-21T01:00:06.052Z caller=main.go:957 level=info msg="Starting TSDB ..."
ts=2022-04-21T01:00:06.100Z caller=head.go:493 level=info component=tsdb msg="Replaying on-disk memory mappable chunks if any"
ts=2022-04-21T01:00:06.100Z caller=head.go:536 level=info component=tsdb msg="On-disk memory mappable chunks replay completed" duration=82.723µs
ts=2022-04-21T01:00:06.100Z caller=head.go:542 level=info component=tsdb msg="Replaying WAL, this may take a while"
ts=2022-04-21T01:00:06.175Z caller=tls_config.go:195 level=info component=web msg="TLS is disabled." http2=false
ts=2022-04-21T01:00:06.176Z caller=head.go:613 level=info component=tsdb msg="WAL segment loaded" segment=0 maxSegment=0
ts=2022-04-21T01:00:06.176Z caller=head.go:619 level=info component=tsdb msg="WAL replay completed" checkpoint_replay_duration=24.361µs wal_replay_duration=75.032636ms total_replay_duration=75.200142ms
ts=2022-04-21T01:00:06.176Z caller=main.go:978 level=info fs_type=EXT4_SUPER_MAGIC
ts=2022-04-21T01:00:06.176Z caller=main.go:981 level=info msg="TSDB started"
ts=2022-04-21T01:00:06.176Z caller=main.go:1162 level=info msg="Loading configuration file" filename=prometheus.yml

```

As we can see, the prometheus server is up and running in port: 9090



Lets check a graph with the request



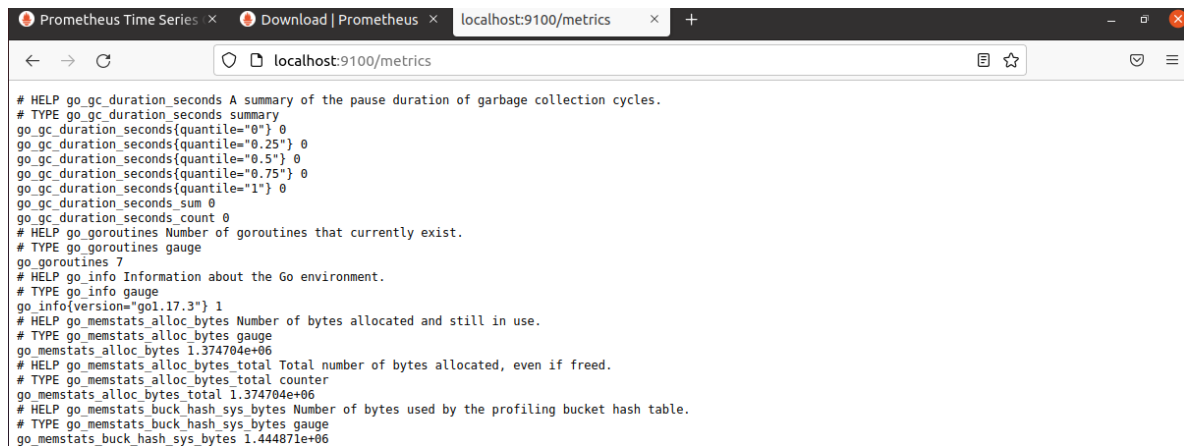
```
byran@byran-VirtualBox:~$ tar -xzf prometheus-2.35.0-rc0.linux-amd64.tar.gz
byran@byran-VirtualBox:~$ cd prometheus-2.35.0-rc0.linux-amd64/
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ ls
console_libraries  LICENSE  prometheus  promtool
consoles           NOTICE  prometheus.yml
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ ./prometheus
ts=2022-04-21T01:00:06.049Z caller=main.go:488 level=info msg="No time or size
```

```
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ wget https://github.com/prometheus/node_exporter/releases/download/v1.3.1/node_exporter-1.3.1.linux-amd64.tar.gz
```

```
2022-04-20 21:12:39 (2,86 MB/s) - "node_exporter-1.3.1.linux-amd64.tar.gz" guardado [9033415/9033415]
```

```
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ tar -xzf node_exporter-1.3.1.linux-amd64.tar.gz
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ cd node_exporter-1.3.1.linux-amd64/
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64/node_exporter-1.3.1.linux-amd64$ ls
LICENSE  node_exporter  NOTICE
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64/node_exporter-1.3.1.linux-amd64$ ./node_exporter
ts=2022-04-21T01:13:46.618Z caller=node_exporter.go:182 level=info msg="Starting node_exporter" version="(version=1.3.1, branch=HEAD, revision=a2321e7b940ddcfff26873612bccdf7cd4c42b6b6)"
```

And we can see that node-exporter is up and running



```
Prometheus Time Series | Download | Prometheus | localhost:9100/metrics
localhost:9100/metrics
# HELP go_gc_duration_seconds A summary of the pause duration of garbage collection cycles.
# TYPE go_gc_duration_seconds summary
go_gc_duration_seconds{quantile="0"} 0
go_gc_duration_seconds{quantile="0.25"} 0
go_gc_duration_seconds{quantile="0.5"} 0
go_gc_duration_seconds{quantile="0.75"} 0
go_gc_duration_seconds{quantile="1"} 0
go_gc_duration_seconds_sum 0
go_gc_duration_seconds_count 0
# HELP go_goroutines Number of goroutines that currently exist.
# TYPE go_goroutines gauge
go_goroutines 7
# HELP go_info Information about the Go environment.
# TYPE go_info gauge
go_info{version="go1.17.3"} 1
# HELP go_memstats_alloc_bytes Number of bytes allocated and still in use.
# TYPE go_memstats_alloc_bytes gauge
go_memstats_alloc_bytes 1.374704e+06
# HELP go_memstats_alloc_bytes_total Total number of bytes allocated, even if freed.
# TYPE go_memstats_alloc_bytes_total counter
go_memstats_alloc_bytes_total 1.374704e+06
# HELP go_memstats_buck_hash_sys_bytes Number of bytes used by the profiling bucket hash table.
# TYPE go_memstats_buck_hash_sys_bytes gauge
go_memstats_buck_hash_sys_bytes 1.444871e+06
```

Creating the prometheus.yml file

```
global:
  scrape_interval: 15s # Set the scrape interval to every 15 seconds. Default is every 1 minute.
  evaluation_interval: 15s # Evaluate rules every 15 seconds. The default is every 1 minute.
scrape_config:
  - job_name: "prometheus"
    static_configs:
      - targets: ["localhost:9090"]
  - job_name: 'node_exporter'
    static_configs:
      - targets: ["localhost:9100"]
```

Then refresh prometheus page to check if node\_exporter is up and running

Prometheus Alerts Graph Status ▾ Help

## Targets

All Unhealthy Collapse All

**node\_exporter (1/1 up)** [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
<a href="http://localhost:9100/metrics">http://localhost:9100/metrics</a>	UP	Instance="localhost:9100" job="node_exporter"	3.120s ago	202.767ms	

**prometheus (1/1 up)** [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
<a href="http://localhost:9090/metrics">http://localhost:9090/metrics</a>	UP	Instance="localhost:9090" job="prometheus"	14.777s ago	3.124ms	

The next thing to do is install grafana

```
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ wget https://dl.grafana.com/enterprise/release/grafana-enterprise-8.5.0.linux-amd64.tar.gz
--2022-04-21 09:06:44-- https://dl.grafana.com/enterprise/release/grafana-enterprise-8.5.0.linux-amd64.tar.gz
Resolviendo dl.grafana.com (dl.grafana.com)... 151.101.206.217, 2a04:4e42:30::729
Conectando con dl.grafana.com (dl.grafana.com)[151.101.206.217]:443... conectado.
Petición HTTP enviada, esperando respuesta... 200 OK
Longitud: 87630471 (84M) [application/x-tar]
Guardando como: "grafana-enterprise-8.5.0.linux-amd64.tar.gz"

grafana-enterprise- 100%[=====] 83,57M 2,55MB/s en 31s

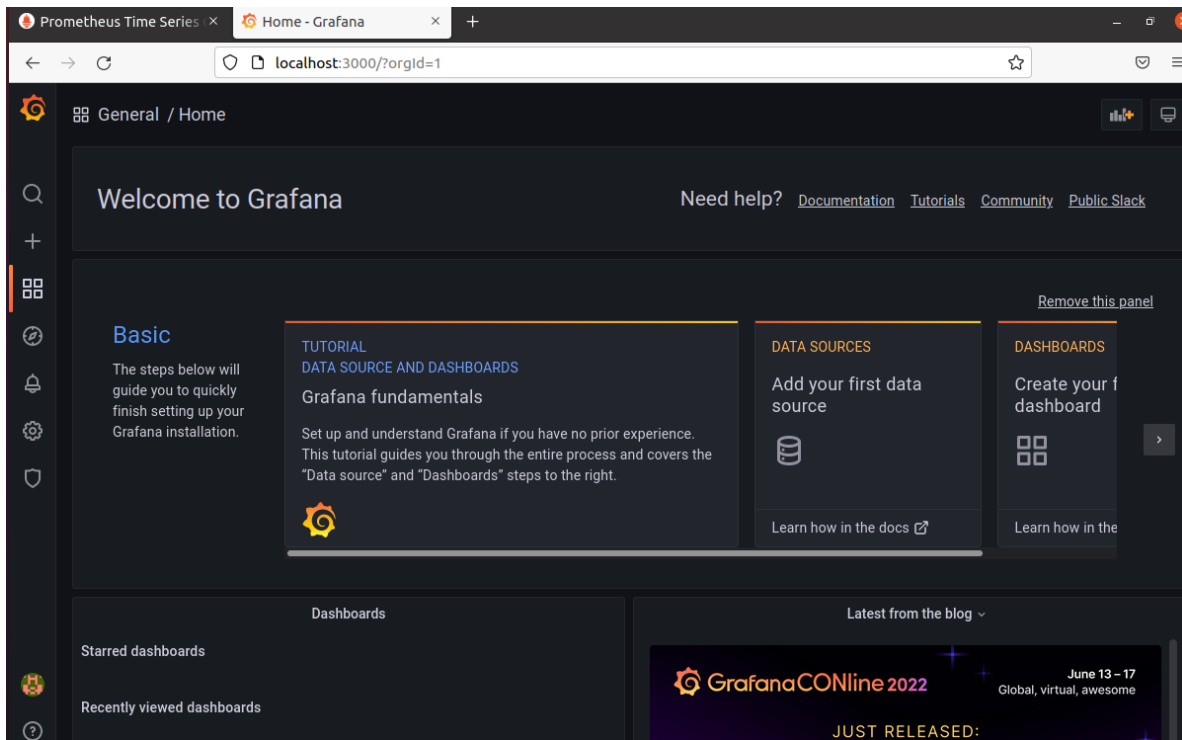
2022-04-21 09:07:17 (2,70 MB/s) - "grafana-enterprise-8.5.0.linux-amd64.tar.gz" guardado [87630471/87630471]

byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$
```

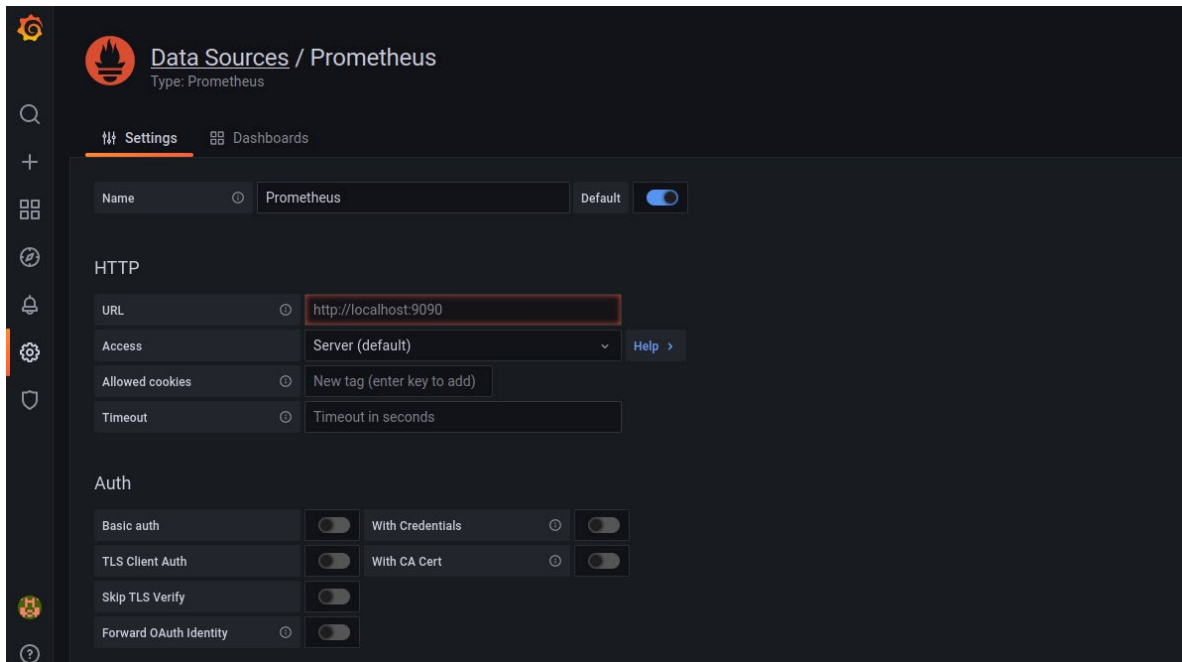
Once the installation its complete, its time to run grafana

```
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64$ cd grafana-8.5.0/
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64/grafana-8.5.0$ ls
bin  conf  LICENSE  NOTICE.md  plugins-bundled  public  README.md  scripts  VERSION
byran@byran-VirtualBox:~/prometheus-2.35.0-rc0.linux-amd64/grafana-8.5.0$ ./bin/grafana-server
INFO [04-21|09:09:30] Starting Grafana                      logger=settings version=8.5.0 commit=6134
e3cf3 branch=HEAD compiled=2022-04-21T06:36:58-0400
INFO [04-21|09:09:30] Config loaded from                      logger=settings file=/home/byran/promethe
us-2.35.0-rc0.linux-amd64/grafana-8.5.0/conf/defaults.ini
INFO [04-21|09:09:30] Path Home                             logger=settings path=/home/byran/promethe
us-2.35.0-rc0.linux-amd64/grafana-8.5.0
INFO [04-21|09:09:30] Path Data                             logger=settings path=/home/byran/promethe
us-2.35.0-rc0.linux-amd64/grafana-8.5.0/data
INFO [04-21|09:09:30] Path Logs                             logger=settings path=/home/byran/promethe
us-2.35.0-rc0.linux-amd64/grafana-8.5.0/data/log
INFO [04-21|09:09:30] Path Plugins                           logger=settings path=/home/byran/promethe
us-2.35.0-rc0.linux-amd64/grafana-8.5.0/data/plugins
INFO [04-21|09:09:30] Path Provisioning                      logger=settings path=/home/byran/promethe
us-2.35.0-rc0.linux-amd64/grafana-8.5.0/conf/provisioning
INFO [04-21|09:09:30] App mode production                    logger=settings
INFO [04-21|09:09:31] Connecting to DB                       logger=sqlstore dbtype=sqlite3
INFO [04-21|09:09:31] Creating SQLite database file           logger=sqlstore path=/home/byran/promethe
```

Check the localhost:300



Create database for prometheus



Now we can see that the connection is completed

✓

Data source is working

► Details

Back

Explore

Delete

Save & test

Test the connection

## Importing dashboard from Grafana.com

Published by	rfraile
Updated on	2022-02-08 15:51:42

### Options

Name

Node Exporter Full

Folder

General

Unique identifier (UID)

The unique identifier (UID) of a dashboard can be used for uniquely identify a dashboard between multiple Grafana installs. The UID allows having consistent URLs for accessing dashboards so changing the title of a dashboard will not break any bookmarked links to that dashboard.

rYdddIPWk

Change uid

Prometheus

Prometheus

Import

Cancel

And finally check the graph



