Creating a Docker Compose file with Prometheus, Grafana and Node Exporter

Install Compose (Ubuntu 20.04)

Download the current stable release of Docker Compose (@April 2022)

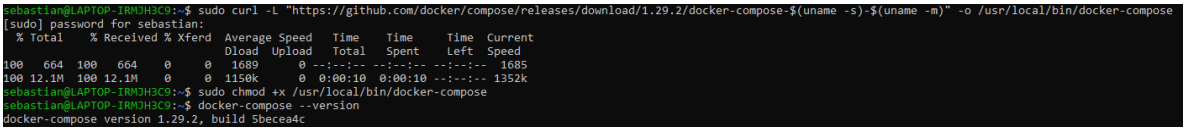
```
sudo curl -L "https://github.com/docker/compose/releases/download/1.29.2/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
```

Apply executable permissions to the binary

```
sudo chmod +x /usr/local/bin/docker-compose
```

Test the installation

```
docker-compose --version
```



Creating the Docker compose file

Create the folder that will hold the project

```
mkdir <directory-name>
```

Create the Docker Compose file inside the directory

```
touch docker-compose.yml
```

Configure the Docker Compose so it integrates Prometheus, Grafana, Node-exporter (and optional, cAdvisor)

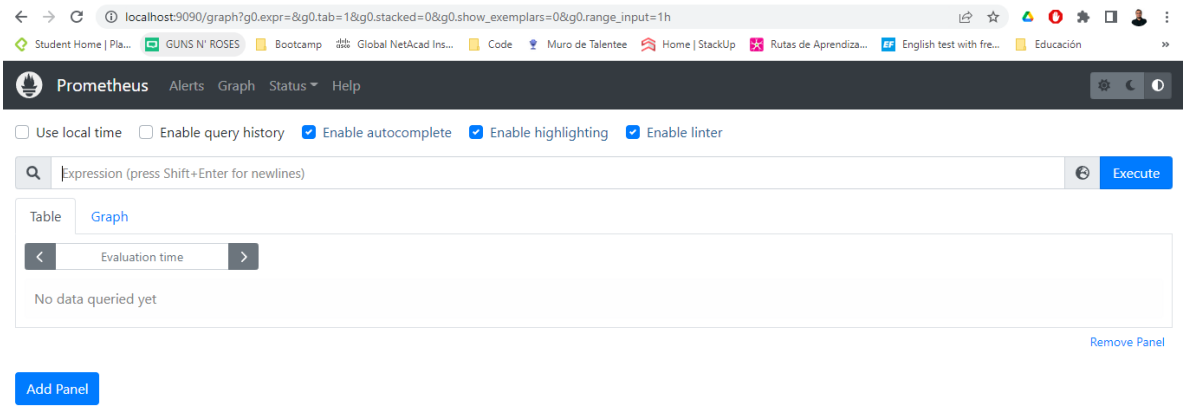
```yaml
version: '3'

volumes:
  prometheus-data:
    driver: local
  grafana-data:
    driver: local

services:
  prometheus:
    image: prom/prometheus:latest
    container_name: prometheus
    ports:
      - "9090:9090"
    volumes:
      - /etc/prometheus:/etc/prometheus
      - prometheus-data:/prometheus
    command:
      - "--config.file=/etc/prometheus/prometheus.yml"
    restart: unless-stopped

  grafana:
    image: grafana/grafana-oss:latest
    container_name: grafana
    ports:
      - "3000:3000"
    volumes:
      - grafana-data:/var/lib/grafana

  node_exporter:
    image: quay.io/prometheus/node-exporter:latest
    container_name: node_exporter
    command:
      - "--path.rootfs=/host"
    network_mode: host
    pid: host
    restart: unless-stopped
    volumes:
      - /:/host:ro,rslave

  cadvisor:
    image: google/cadvisor:latest
    container_name: cadvisor
    volumes:
      - /:/rootfs:ro
      - /var/run:/var/run:ro
      - /sys:/sys:ro
      - /var/lib/docker/:/var/lib/docker:ro
      - /dev/disk/:/dev/disk:ro
    devices:
      - /dev/kmsg
```

Run the containers using docker-compose up from the project directory

```
sudo docker-compose up
```

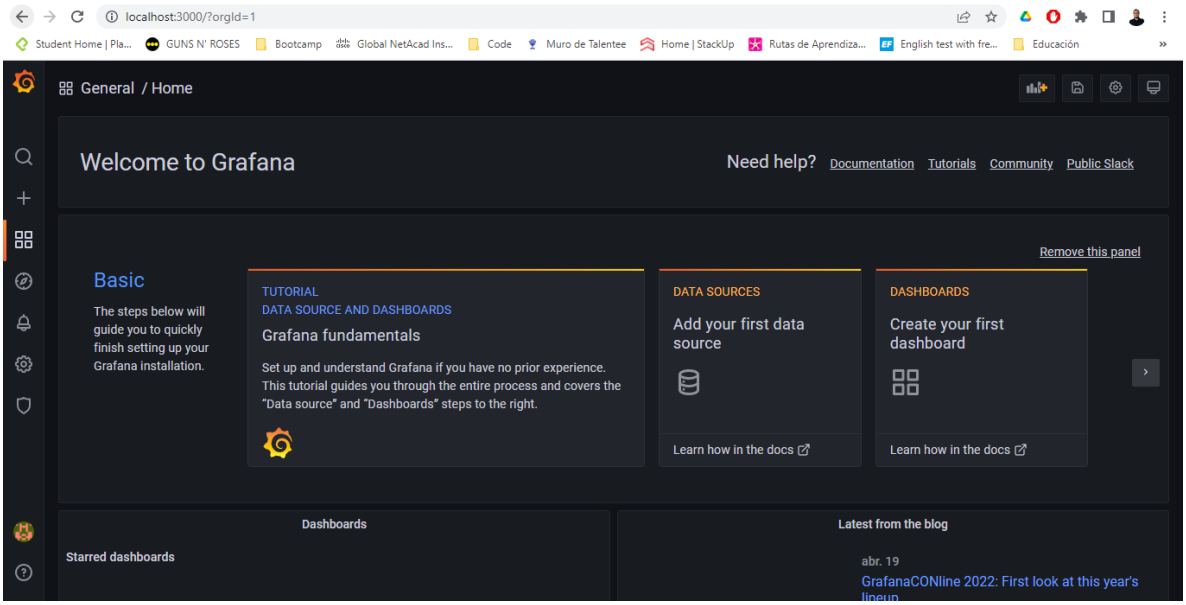
```
sebastian@LAPTOP-IRMJH3C9:~/prometheus-grafana-docker$ sudo docker-compose up
Starting redis                  ... done
Starting grafana                ... done
Starting cadvisor               ... done
Starting node_exporter          ... done
Starting 6cc9b39fdcf4_prometheus ... done
```

Test the deployment by entering http://localhost:9090. It should show Prometheus Dashboard.

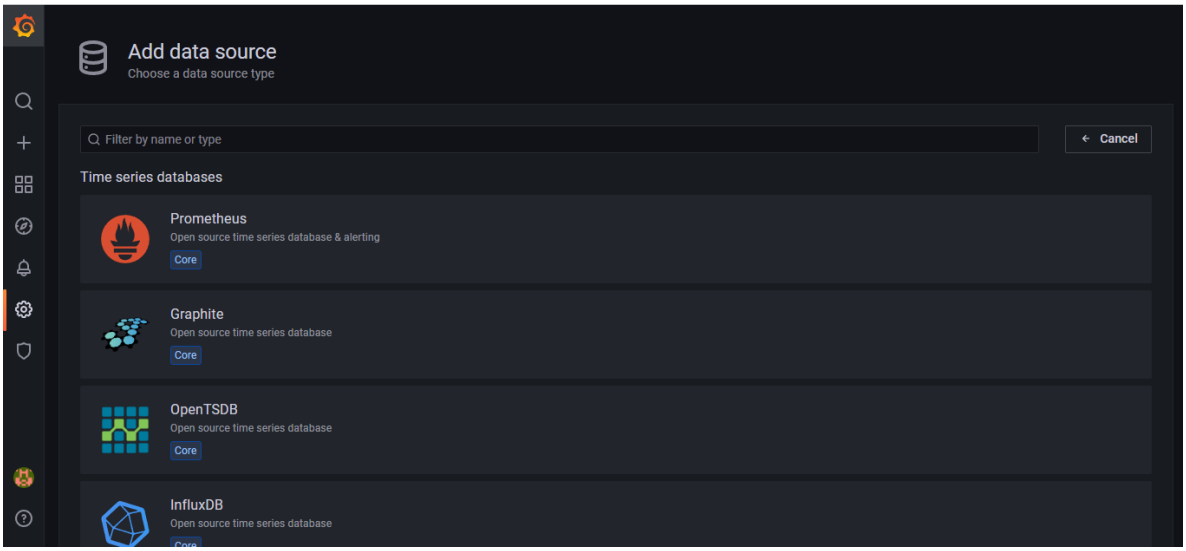


Setting up Grafana dashboards

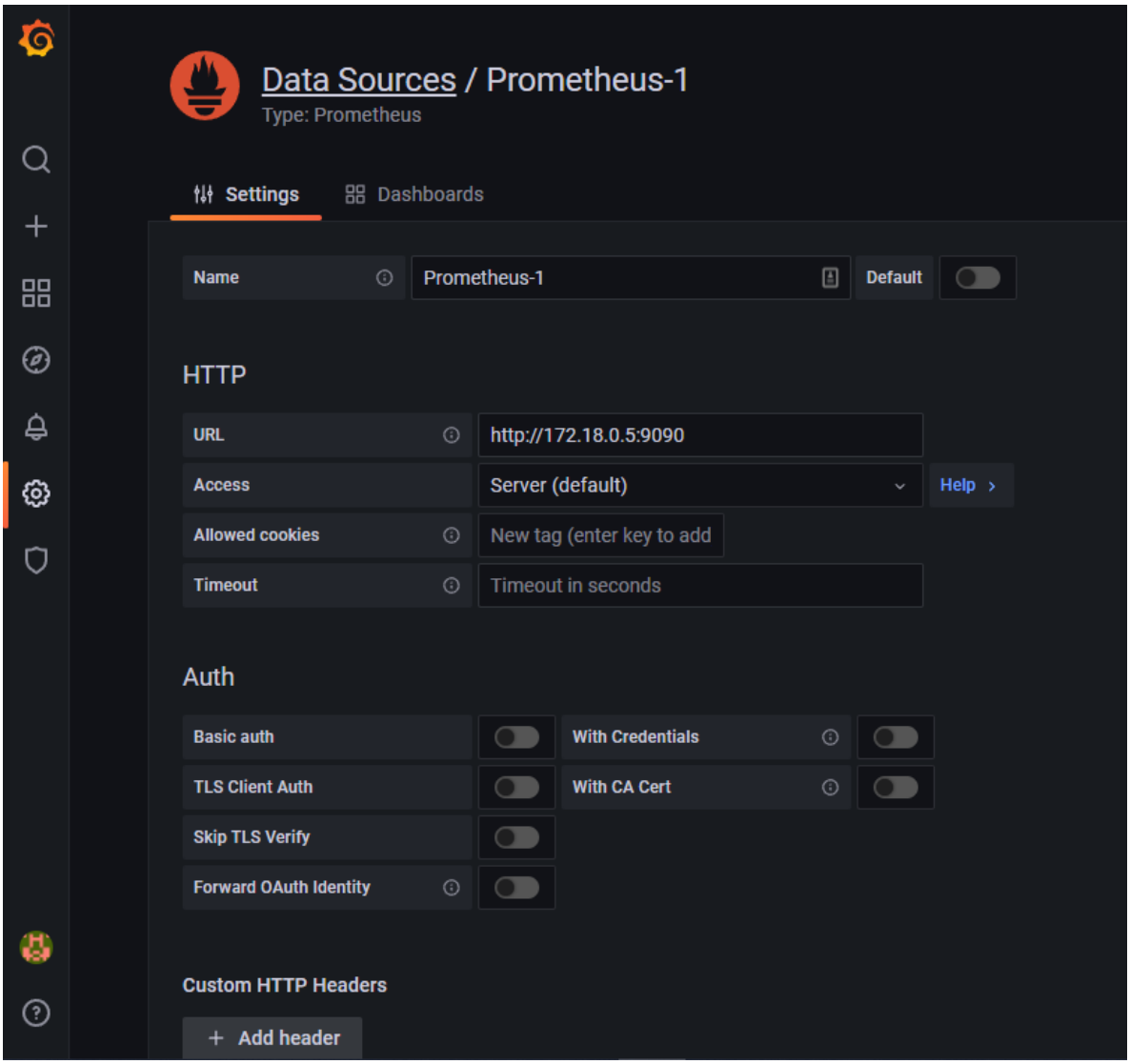
Enter http://localhost:3000 and login as admin/admin in Grafana



Click on “Add your first data source” and select “Prometheus” in the new page.

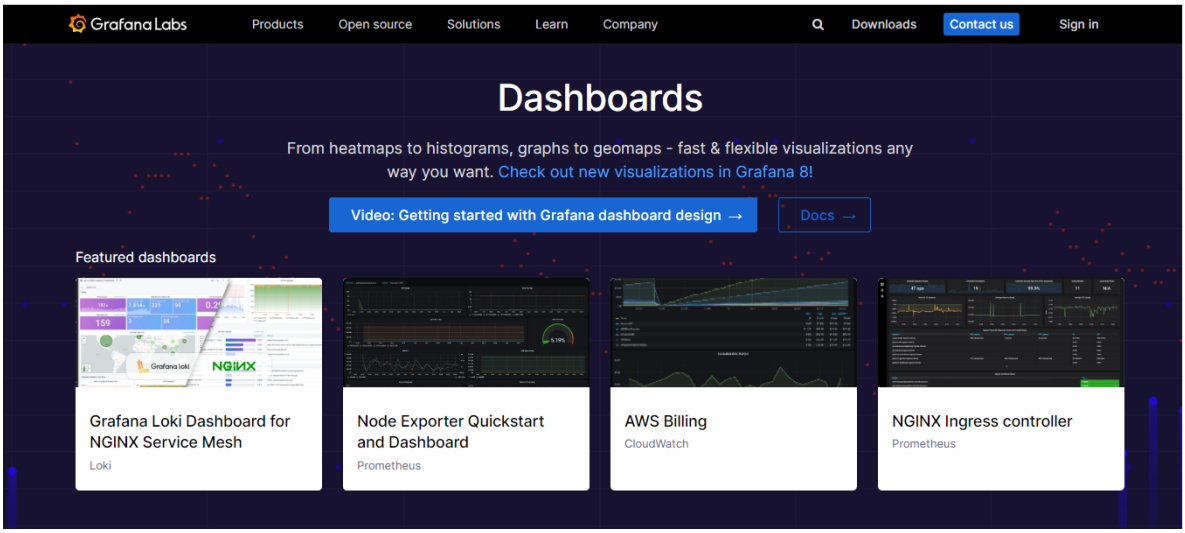


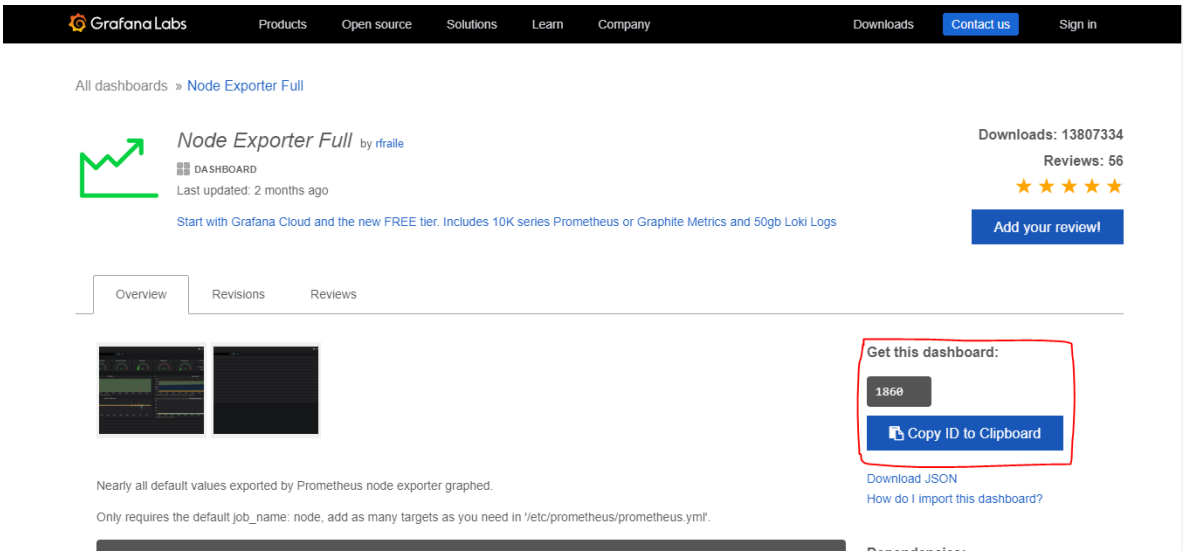
Add the URL to Prometheus server (http://localhost:9090 by default) and click on Save and Test. If there is an issue with the connection, replace the http://localhost:9090 for http://server_ip:9090. To find the server ip where Prometheus is running, you can use `sudo docker network inspect <network_name>`



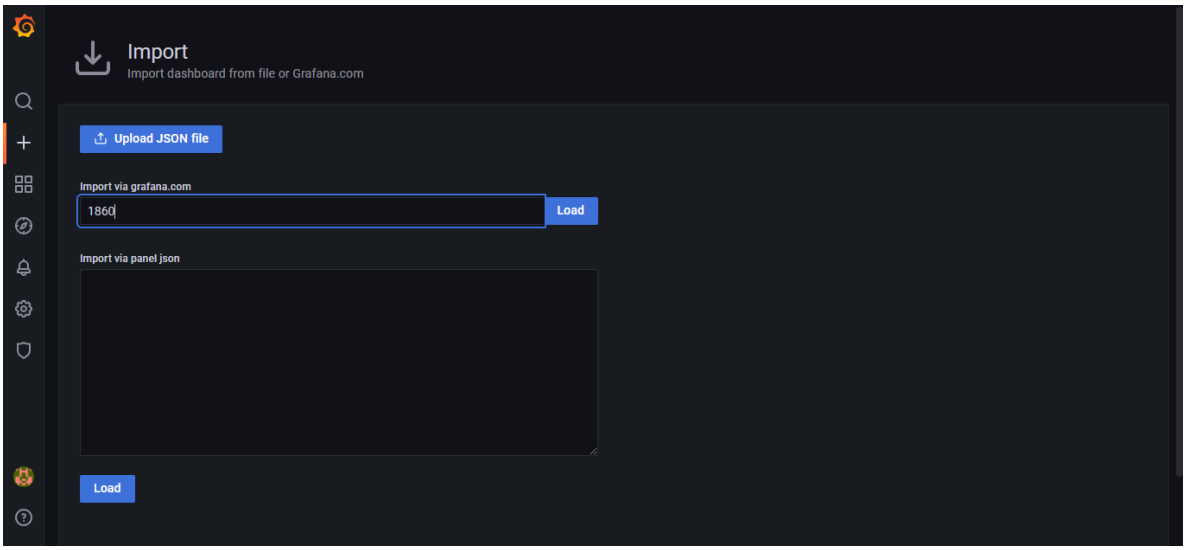
Add Node Exporter Full dashboard

Access https://grafana.com/grafana/dashboards/ and look for “Node Exporter Full” dashboard

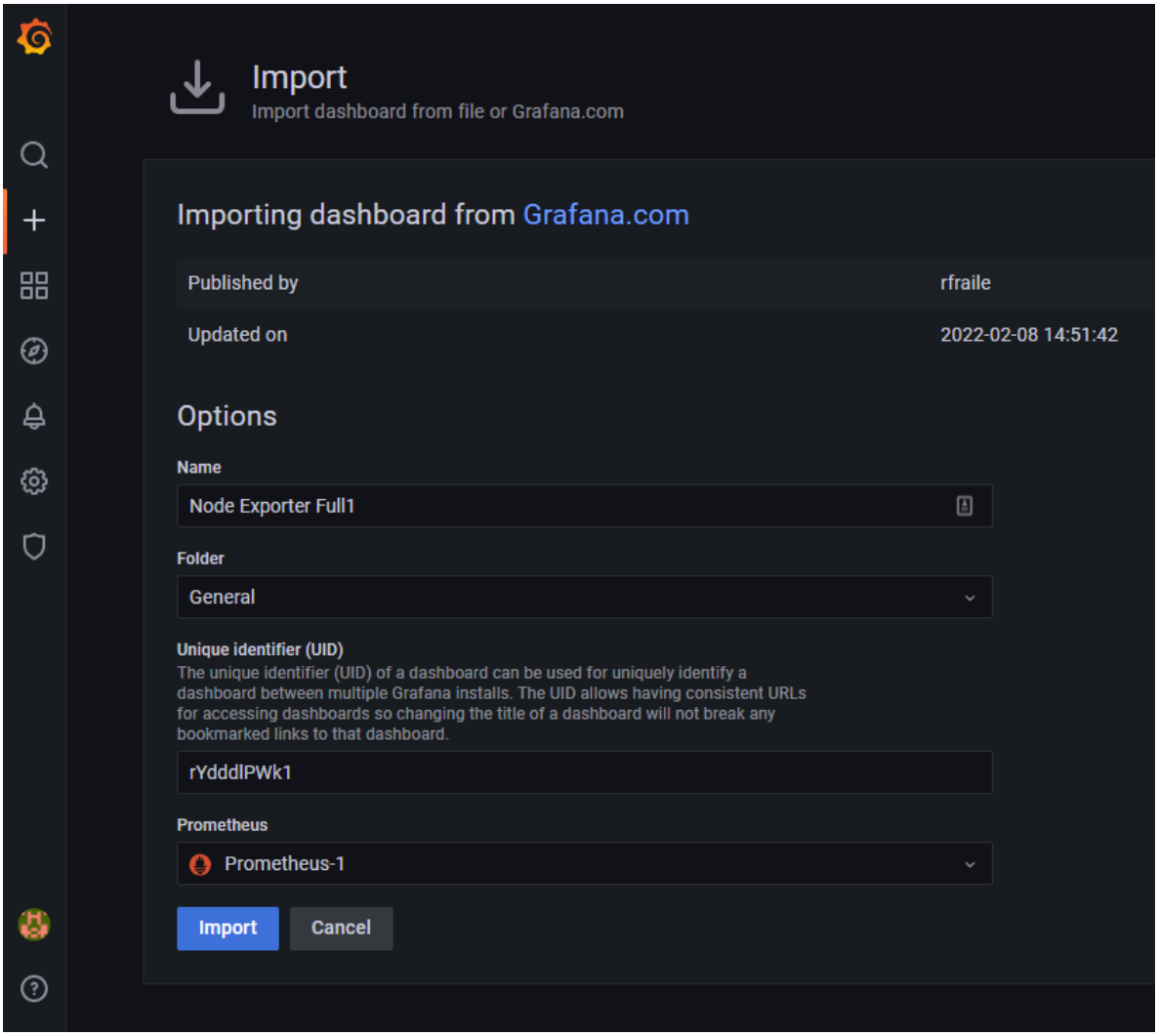




Copy Node Exporter Full dashboard ID and import the dashboard to Grafana. To do so, click on the “+” at the left menu, then Import, write the dashboard ID and click on Load.



Select Prometheus as the data source and click on Import



The Node Exporter Full dashboard is ready