Deploying the Prometheus stack using Docker Compose involves creating a Docker Compose file that defines the services for Prometheus, Node Exporter, and Grafana. Below are the steps to accomplish this:

1. **Install Docker and Docker Compose**:
   * Ensure Docker and Docker Compose are installed on your system. You can install Docker from here and Docker Compose from here.
2. **Create a Directory for Your Setup**:
   * Create a new directory for your Prometheus stack setup.

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mkdir prometheus-stack

cd prometheus-stack

1. **Create Configuration Files**:
   * Create configuration files for Prometheus and Grafana.

**prometheus.yml**:

yaml

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global:

scrape\_interval: 15s

scrape\_configs:

- job\_name: 'prometheus'

static\_configs:

- targets: ['prometheus:9090']

- job\_name: 'node\_exporter'

static\_configs:

- targets: ['node\_exporter:9100']

**docker-compose.yml**:

yaml

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version: '3.7'

services:

prometheus:

image: prom/prometheus

volumes:

- ./prometheus.yml:/etc/prometheus/prometheus.yml

command:

- '--config.file=/etc/prometheus/prometheus.yml'

ports:

- '9090:9090'

node\_exporter:

image: prom/node-exporter

ports:

- '9100:9100'

grafana:

image: grafana/grafana

ports:

- '3000:3000'

environment:

- GF\_SECURITY\_ADMIN\_PASSWORD=admin

volumes:

- grafana-storage:/var/lib/grafana

volumes:

grafana-storage:

1. **Start the Prometheus Stack**:
   * Run Docker Compose to start the services.

bash

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docker-compose up -d

1. **Access the Services**:
   * Open your browser and navigate to the following URLs:
     + Prometheus: http://localhost:9090
     + Node Exporter: http://localhost:9100/metrics
     + Grafana: http://localhost:3000 (default username: admin, password: admin)
2. **Configure Grafana**:
   * Add Prometheus as a data source in Grafana:
     + Log in to Grafana (http://localhost:3000).
     + Go to "Configuration" > "Data Sources" > "Add data source".
     + Select "Prometheus" and set the URL to http://prometheus:9090.
     + Click "Save & Test".

By following these steps, you will have a running Prometheus stack with Prometheus, Node Exporter, and Grafana using Docker Compose.

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