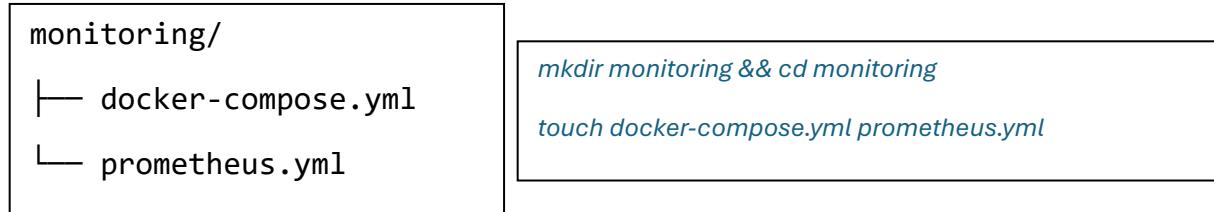


Monitoring Stack Guide: Prometheus, Grafana, Node Exporter & cAdvisor

This guide will help you set up a complete monitoring solution using **Docker Compose**.

Project Structure

Create a folder for your project and set up the following structure:



Prometheus Configuration

Create the `prometheus.yml` file. This tells Prometheus where to "scrape" (collect) the data from.

```
global:
  scrape_interval: 15s

  scrape_configs:
    - job_name: 'prometheus'
      static_configs:
        - targets: ['localhost:9090']

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

    - job_name: 'cadvisor'
      static_configs:
        - targets: ['cadvisor:8080']
```

Docker Compose File

Create the `docker-compose.yml` file. Note the port mapping has been adapted to Resilmesh platform.

```
services:
  prometheus:
    image: prom/prometheus:latest
    container_name: prometheus
    volumes:
      - ./prometheus.yml:/etc/prometheus/prometheus.yml
    command:
      - '--config.file=/etc/prometheus/prometheus.yml'
    ports:
      - "9090:9090"
    networks:
      - monitoring

  grafana:
    image: grafana/grafana:latest
    container_name: grafana
    ports:
      - "3500:3000"
    environment:
      - GF_SECURITY_ADMIN_PASSWORD=admin
    networks:
      - monitoring

  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)(\$\$|)'
    networks:
      - monitoring

  cadvisor:
    image: gcr.io/cadvisor/cadvisor:latest
    container_name: cadvisor
    ports:
      - "8088:8080"
    volumes:
      - /:/rootfs:ro
      - /var/run:/var/run:ro
      - /sys:/sys:ro
      - /var/lib/docker/:/var/lib/docker:ro
      - /dev/disk/:/dev/disk:ro
    networks:
      - monitoring

networks:
  monitoring:
    driver: bridge
```

Deployment Steps

Launch the stack: Open your terminal in the project folder and run:

```
$ docker-compose up -d
```

Access the services:

- **Prometheus:** <http://localhost:9090>
- **Grafana:** <http://localhost:3500> (User: admin / Pass: admin)
- **cAdvisor:** <http://localhost:8088>

Configure Grafana:

- Login to Grafana.
- Go to **Connections > Data Sources**.
- Click **Add data source** and select **Prometheus**.
- In the URL field, enter: *http://prometheus:9090* (since they are in the same Docker network).
- Click **Save & Test**.

Import Dashboards: Go to **Dashboards > New > Import** and use these IDs:

- **1860:** To monitor the Server (Node Exporter).
- **14282:** To monitor Containers (cAdvisor).

A quick tip: If you don't see any data when trying to view cAdvisor metrics, make sure the container has sufficient permissions (that's why we add privileged: true in the compose file), as access to Docker stats is more restricted in some modern Linux distributions.