Tutorial Prometheus and Grafana

Create a docker-compose file with Prometheus, Grafana and Node-exporter.

Create a docker-compose.yml to create a container for Grafana, Prometheus and Node-Exporter.

```yaml
version: "3.8"

volumes:
  grafana-data:
  prometheus-data:

services:
  grafana:
    image: grafana/grafana:latest
    ... etc

  prometheus:
    image: prom/prometheus:latest
    ... etc

  node_exporter:
    image: quay.io/prometheus/node-exporter:latest
    ... etc
```

Create a prometheus.yml with the configurations to connect with Node-Eporter.

```yaml
global:
  scrape_interval: 15s
  evaluation_interval: 15s

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

  - job_name: 'node_exporter'
    static_configs:
    - targets: ['node_exporter:9100']
```

Run docker-compose up --build -d to run the docker-compose.yml configurations

```
liox@DESKTOP-SG1FBT8:~/jalasoft/jalasoft-bootcamp/devOps_1/JalaUniversity_DevOps/docker-compose$ docker-compose up -d
[+] Running 3/0
 # Container prometheus     Running                                                                      0.0s
 # Container node_exporter  Running                                                                      0.0s
 # Container grafana        Running                                                                      0.0s
```

Verify the containers docker-compose ps

```
liox@DESKTOP-SG1FBT8:~/jalasoft/jalasoft-bootcamp/devOps_1/JalaUniversity_DevOps/docker-compose$ docker-compose ps
NAME            COMMAND               SERVICE         STATUS      PORTS
grafana         "/run.sh"             grafana         running     0.0.0.0:3000->3000/tcp
node_exporter   "/bin/node_exporter _" node_exporter   running     0.0.0.0:9100->9100/tcp
prometheus      "/bin/prometheus --c_" prometheus      running     0.0.0.0:9090->9090/tcp
```

Go to http://localhost:9100/metrics to see node-exporter 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"} 2e-05
go_gc_duration_seconds{quantile="0.25"} 3.68e-05
go_gc_duration_seconds{quantile="0.5"} 3.91e-05
go_gc_duration_seconds{quantile="0.75"} 4.38e-05
go_gc_duration_seconds{quantile="1"} 4.44e-05
go_gc_duration_seconds_sum 0.0002624
go_gc_duration_seconds_count 7
# HELP go_goroutines Number of goroutines that currently exist.
# TYPE go_goroutines gauge
go_goroutines 8
# HELP go_info Information about the Go environment.
# TYPE go_info gauge
go_info{version="go1.19.3"} 1
# HELP go_memstats_alloc_bytes Number of bytes allocated and still in use.
# TYPE go_memstats_alloc_bytes gauge
go_memstats_alloc_bytes 2.65084e+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 1.4250632e+07
# HELP go_memstats_buck_hash_sys_bytes Number of bytes used by the profiling bucket hash table.
```

Go to http://localhost:9090 to see Prometheus targets and make a query.

Go to Grafana on http://localhost:3000.

Add a data source and import a dashboard to see the data.