Python System Monitor

Assignment:

1. Write a python program to read system stats from local machine (CPU%, Memory%, …), per process(pid) and store them in Elasticsearch database.
2. Use Kibana/Redash to visualise the data in Elasticsearch.

   2.1. Timechart widget grouped by metrics (CPU%, Memory%) collected (For all PIDs), showing them in a single widget.

   2.2 [Bonus] List the PIDs taking more than 40% of CPU, Memory.

   `You can visualise in a way that you think is the best representation of this data.`

   [Bonus] Do the installations of Elastic, Kibana, python application in docker.

Project Hierarchy

```
.
   config
       requirements.pip
   docker-compose.yml
   Dockerfile
   export_files
       elastic_export_kibana.txt
       elastic_export.txt
       elastic_info.txt
       export.ndjson
   pictures
       kibana_dashboard_full.png
       kibana_dashboard_onewidget.png
   README.md
   src
       __pycache__
       stats.ipynb
       system_monitor.py
   volumes
        data01

7 directories, 12 files
```

Important Notes

Elastic container requires high vm memory, so need may rise to run this command

```
sudo sysctl -w vm.max_map_count=262144
```