IT4031 – VAUED Assignment 02 – 2023

This is a group assignment, and each group should consist of 4-5 members.

You need to implement a deployment to capture metrics from an application and visualize those by using the Grafana dashboards.

Deployment can be run in your native operating system. As an improvement, you can deploy the same in Docker/Kubernetes environments in your local machine or cloud environments.

1. You need to deploy an application which provides an API to fetch metrics information. For this you can use any language or implementation. You can use any third party exporters or technologies to expose Prometheus metrics [1].

2. Deploy a Prometheus server and include the above application/system as a target. There you need to identify some metrics types.

3. Deploy a Grafana dashboard server and include the above Prometheus server as a data source. Then you need to create a dashboard to visualize the metrics. Export this grafana dashboard to a json file. You need to identify and implement alerting in Grafana.

You need to do a demo on the above implementation and topic, data visualization and observability. Grafana dashboard json file and Prometheus configuration yaml files should be submitted.

[1] https://prometheus.io/docs/instrumenting/exporters/

Marking scheme

- ○ **Task 01 (30 marks)**
  - ■ Setting the Application and configuring the exporter - 20 marks
  - ■ Deploy using docker/kubernetes/cloud - 10 marks
- ○ **Task 02 (30 marks)**
  - ■ Setting up prometheus - 20 marks
  - ■ Deploy using docker/kubernetes/cloud - 10 marks
- ○ **Task 03 (40 marks)**
  - ■ Setting up a Grafana dashboard - 20 marks
  - ■ Setting up alerting - 10 marks
  - ■ Deploy using docker/kubernetes/cloud - 10 marks