

# # Kubernetes In 30 Days challenge :-

Demo-2

## # Day 18 :-

Demo on Prometheus and Grafana.

### Introduction :-

#### Prometheus :-

→ It is a open source monitoring and Alerting system that helps you collect and store metrics about Applications and Infrastructure and analyse the health and performance

Ex:- CPU usage, memory usage, network traffic and/or application metrics

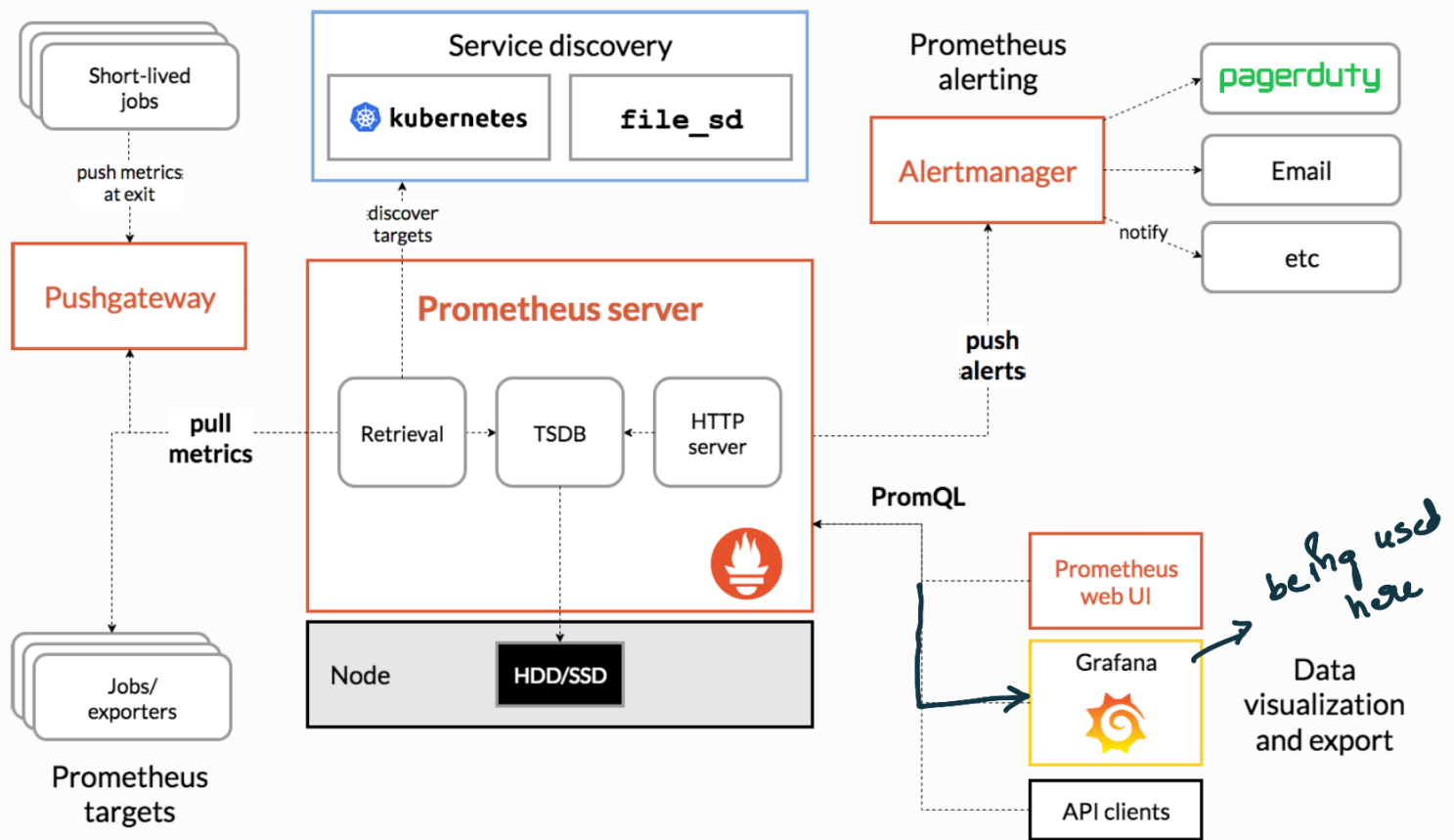
- Opensource
- Native K8s support
- Powerful query language PromQL
- Scalability
- Integrations

#### Grafana :-

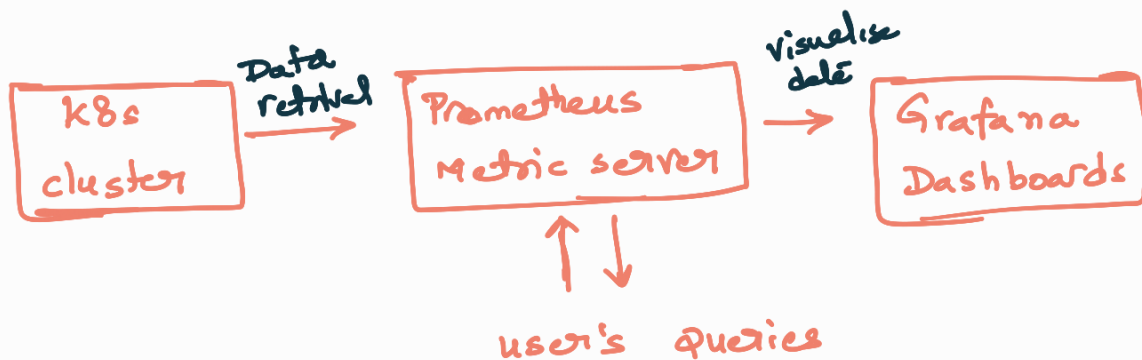
→ It is a popular open source data visualisation and analytics platform that allow you to create custom dashboards and visualisations based on a variety of data sources.

→ It has support for so many integrations such as Prometheus, Elastic search and Influx DB.

# Prometheus Architecture :-



In a Nut shell we can consider :



Lets move to hands-on. consider Prerequisites below for this particular hands-on :-

- ① kubernetes cluster ( here I am using minikube )
- ② helm ( install from helm documentation based on OS - requirement )

## Illustrative steps Involved :-

- ① cluster creation ( 2 CPUs, 4GB RAM)
- ② Install Prometheus using helm
- ③ Install Grafana using helm
- ④ create respective svc through NodePort to access over browser.
- ⑤ Import Grafana Dashboard of your choice  
(I used 6417 Dashboard)
- ⑥ Explore Both Dashboards.
- ⑦ cleanup all resources.

## Prometheus :-

```
# helm repo add prometheus-community  
https://prometheus-community.github.io/helm-charts.  
  
# helm repo update  
  
# helm install prometheus prometheus-community/-  
prometheus  
  
# kubectl expose service prometheus-server  
--type = NodePort --target-port = 9090 --name =  
prometheus-server-ext
```

Access Dashboard @ <minikube IP> : NodePort

## Grafana:-

```
# helm repo add grafana https://grafana.github.io/helm-charts
```

```
# helm repo update
```

```
# helm install grafana grafana/grafana
```

```
# kubectl expose service grafana --type=NodePort  
--target-port=3000 --name=grafana-ext
```

Access Dashboard @  $\langle \text{minikube IP} \rangle : \text{NodePort}$

- ① set up Datasource as Prometheus and provide Prometheus Dashboard link and save
- ② Import the Dashboard of your choice and Explore.

© Abhishek Veeramalla @ YT