

Infra Intern Syfe - 2022

First Round

Timeline - Max 5 Days

#1 - Run a Production grade Wordpress app on Kubernetes

Objectives:

- Create PersistentVolumeClaims and PersistentVolumes
 - ReadWriteMany volumes for deployment scaling
- Create DockerFile for Wordpress, Mysql and Nginx. All the request will proxy pass from nginx to wordpress.
 - We using lua in Nginx, so compile a opensresty with lua while building docker container image for Nginx.
 - Use below configure option in opensresty build

```
1 ./configure --prefix=/opt/openresty \  
2     --with-pcre-jit \  
3     --with-ipv6 \  
4     --without-http_redis2_module \  
5     --with-http_iconv_module \  
6     --with-http_postgres_module \  
7     -j8
```

- Apply should be using Helm chart like `helm install my-release my-repo/wordpress`
- Clean up `helm delete my-release`

#2 - Setup monitoring and alerting for wordpress app

Objectives:

- Deploy Prometheus / Grafana stack on kubernetes (Can use public helm charts)
- Setup monitoring and alerting for your application deployed earlier such as I should get below container metrics (Points for visualisation and alerting)
 - a. Pod CPU utilisation
- Monitoring for nginx deployed in Objective-1 such as:
 - Total Request Count
 - Total 5xx request
- Create a document for all required metrics for wordpress, apache and nginx.



- Points for using Kubernetes and visualising cluster metrics
- All code should be check-in on Github. Share only public url with us.
- Points for best practice, neat code and documentation.

Share all helm charts in single repo with detailed README notes to deploy and test.
