

Microservices in Kubernetes

- Ankita Khurana

- 3148515

Source Code:

https://github.com/AnkitaKhurana/Kubernetes_Microservices_Assignment

The repo contains

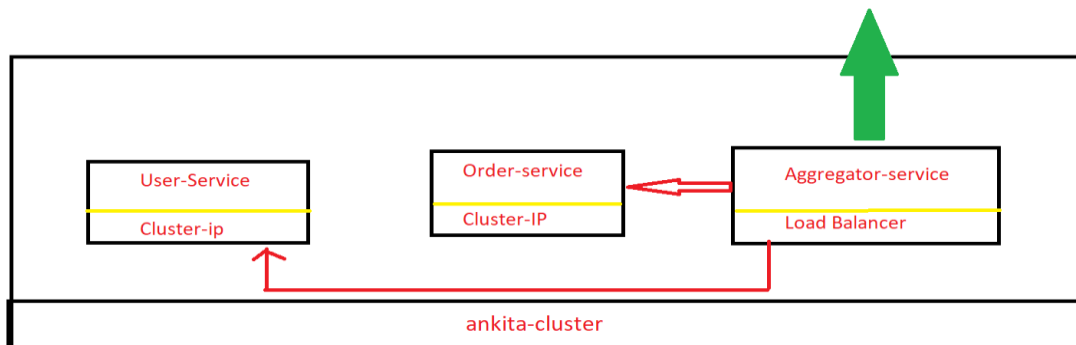
1. Services (User, order, aggregated)
2. Deployment yml files for services

Docker Hub image links :

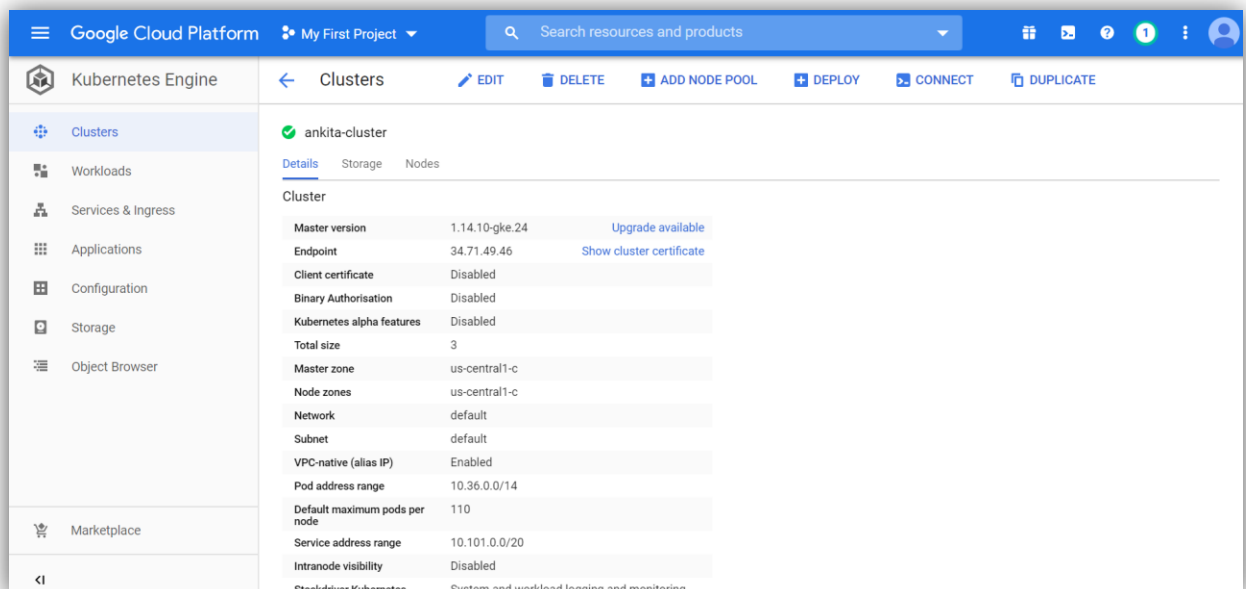
1. User-service Image : <https://hub.docker.com/r/ankitakhurana25/user-service>
2. Order-service image: <https://hub.docker.com/r/ankitakhurana25/order-service>
3. Aggregator-service image: <https://hub.docker.com/r/ankitakhurana25/aggregator-service>

Deployment using Kubernetes

The three services are deployed with two pods each (replicas). Three nodes are present in the cluster for handling them. User and order service are accessible within the cluster using cluster-ip service type and aggregator service is exposed to the internet using load balance service type.



Service deployment diagram



ankita-cluster

```

akshat_unofficial_24@cloudshell:~ (arctic-shadow-272307) $ ls
deployment-user.yml  README-cloudshell.txt
akshat_unofficial_24@cloudshell:~ (arctic-shadow-272307) $ kubectl apply -f deployment-user.yml
deployment.apps/user-service created

```

Deployment-user.yml apply example, yml file deployment

Workloads REFRESH DEPLOY DELETE						
Workloads are deployable units of computing that can be created and managed in a cluster.						
<div>Is system object : False</div> <div>Filter workloads</div>						
<input type="checkbox"/>	Name ↑	Status	Type	Pods	Namespace	Cluster
<input type="checkbox"/>	combine-service	OK	Deployment	1/1	default	ankita-cluster
<input type="checkbox"/>	order-service	OK	Deployment	2/2	default	ankita-cluster
<input type="checkbox"/>	user-service	OK	Deployment	2/2	default	ankita-cluster

Workloads

Services & Ingress

REFRESH

CREATE INGRESS

DELETE

KUBERNETES SERVICES

INGRESSES

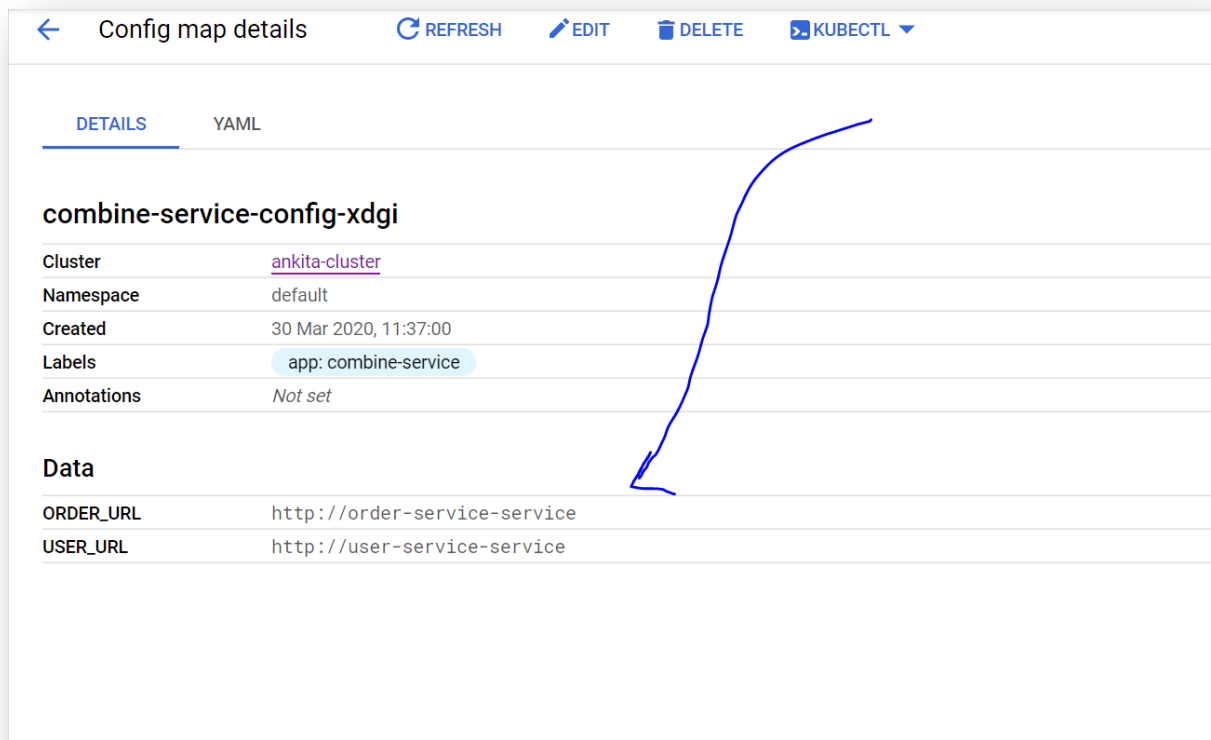
Services are sets of Pods with a network endpoint that can be used for discovery and load balancing. Ingresses are collections of rules for routing external HTTP(S) traffic to Services.

Is system object : False

Filter secrets and config maps

<input type="checkbox"/>	Name ↑	Status	Type	Endpoints	Pods	Namespace	Cluster
<input type="checkbox"/>	combine-service-service	OK	Load balancer	35.223.99.101:80	1/1	default	ankita-cluster
<input type="checkbox"/>	order-service-service	OK	Cluster IP	10.101.15.61	2/2	default	ankita-cluster
<input type="checkbox"/>	user-service-service	OK	Cluster IP	10.101.6.244	2/2	default	ankita-cluster

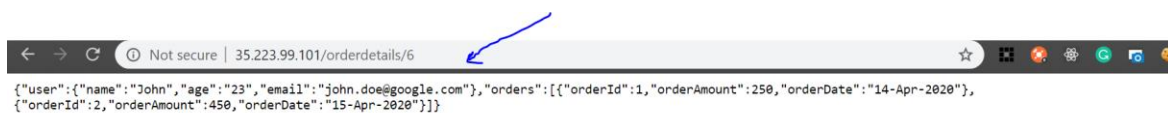
Services for the deployments



Config map details used by aggregator service to internally use the .env variables for order/user service



Aggregator service - / hit



Aggregator service - /orderdetails/:id hit