Create a Namespace & ClusterRole

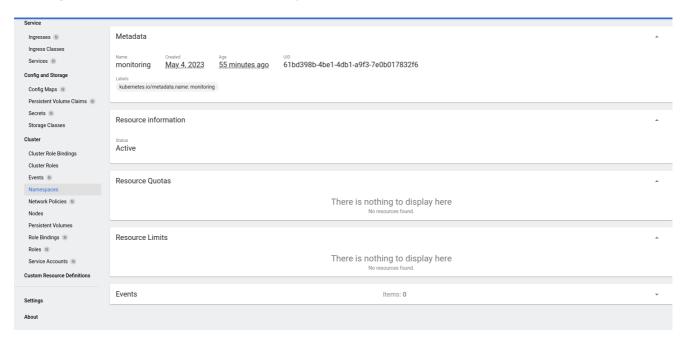
First we need to created namespace for our monitoring using the following command, after we start the minikube

minikube start

create new namespace using

kubectl create namespace monitoring

To start the dashboard for kubernetis cluster run **minikube dashboard** and navigate to **Cluster / Namespaces** and we can see that the namespace that we create.



PROF

To verify that namespace **monitoring** is created in command line type:

kubectl get namespaces

```
Terminal
ds@ds-HP-ProBook-440-G6:~$ kubectl get namespaces
NAME
                        STATUS
default
                        Active
                                 18m
kube-node-lease
                        Active
                                 18m
kube-public
                                 18m
                        Active
kube-system
                        Active
                                 18m
kubernetes-dashboard
                        Active
                                 16m
                        Active
                                 5m43s
monitoring
ds@ds-HP-ProBook-440-G6:~$
```

Now lets create new file caled clusterRole.yaml

Note: In the role, given below, you can see that we have added *get, list, and watch* permissions to nodes, services endpoints, pods, and ingresses. The role binding is bound to the monitoring namespace. If you have any use case to retrieve metrics from any other object, you need to add that in this cluster role.

clusterRole.yaml

PROF

```
clusterRole.yaml X
monitoring >! clusterRole.yaml >[ ] subjects >{} 0 > namespace
      io.k8s.api.rbac.v1.ClusterRoleBinding (v1@clusterrolebinding.json) | io.k8s.api.rbac.v1.ClusterRole (v1@clusterrole.json)
      apiVersion: rbac.authorization.k8s.io/v1
      kind: ClusterRole
      metadata:
      rules:
      - apiGroups: [""]
        resources:
        - nodes
        - nodes/proxy
        - services
        - endpoints
 11
 12
        - pods
        verbs: ["get", "list", "watch"]
 13

    extensions

    ingresses

       verbs: ["get", "list", "watch"]
      nonResourceURLs: ["/metrics"]
      verbs: ["get"]
      apiVersion: rbac.authorization.k8s.io/vl
      kind: ClusterRoleBinding
      metadata:
       name: prometheus
      roleRef:
       apiGroup: rbac.authorization.k8s.io
        kind: ClusterRole
       name: prometheus
      subjects:
      - kind: ServiceAccount
       name: default
 33
        namespace: monitoring
```

run the following command to create the role

```
kubectl create -f clusterRole.yaml
```

```
Terminal

ds@ds-HP-ProBook-440-G6:~/Documents/monitoring$ kubectl create -f clusterRole.yaml clusterrole.rbac.authorization.k8s.io/prometheus created clusterrolebinding.rbac.authorization.k8s.io/prometheus created ds@ds-HP-ProBook-440-G6:~/Documents/monitoring$
```

Create a Config Map To Externalize Prometheus Configurations

All configurations for Prometheus are part of prometheus.yaml file and all the alert rules for Alertmanager are configured in prometheus.rules.

PROF

discovery details, sto	iscovery details, storage locations, data retention configs, etc)		
prometheus.rules: This file contains all the Prometheus alerting rule			
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prometheus.yaml: This is the main Prometheus configuration which holds all the scrape configs, service