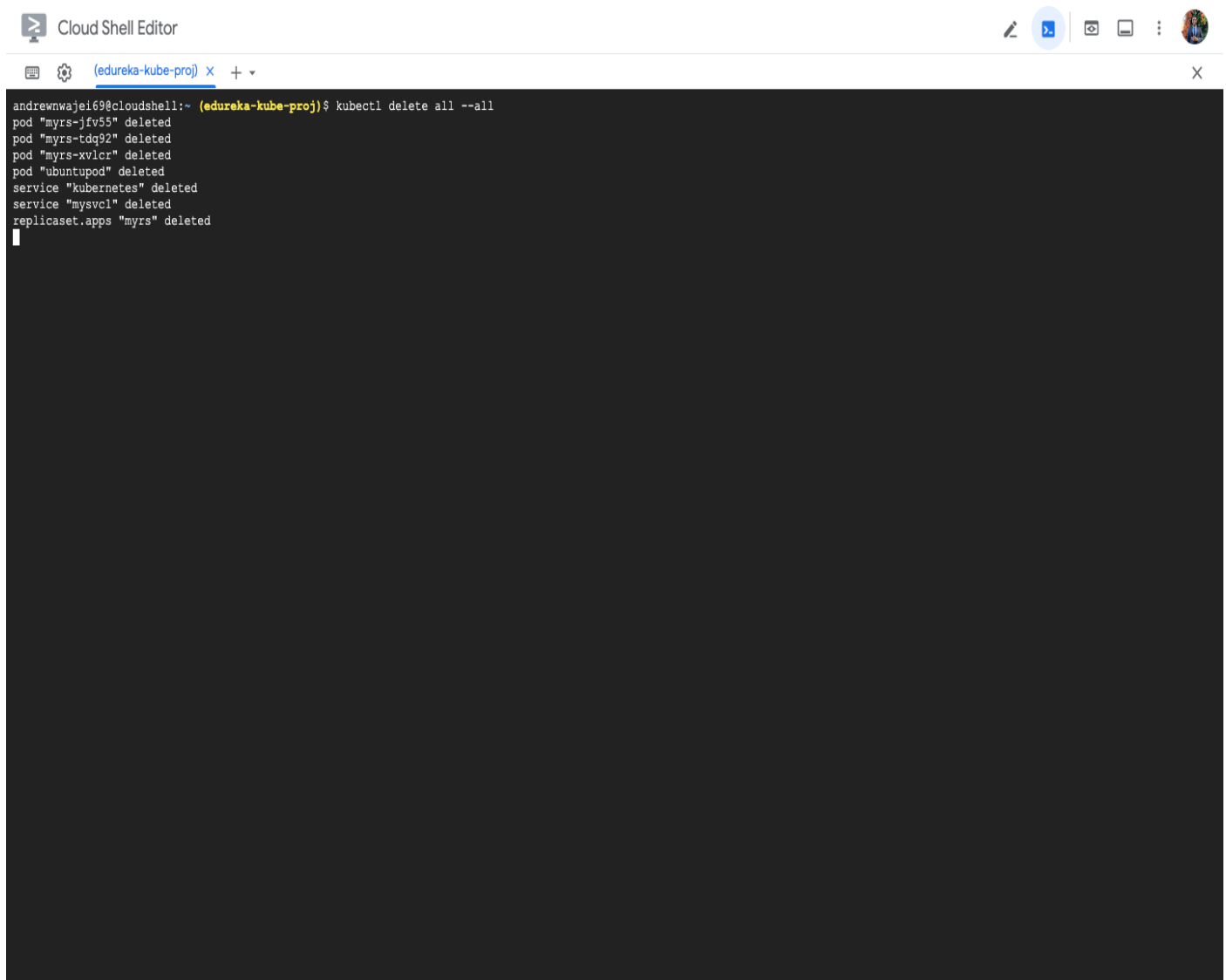


Andrew Nwajei

Creating a Service Object: Using Node Port on GCP

16th March 2023

Delete all previously created pods.



Cloud Shell Editor

(edureka-kube-proj) X + ▾

```
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$ kubectl delete all --all
pod "myrs-jfv55" deleted
pod "myrs-tdq92" deleted
pod "myrs-xv1cr" deleted
pod "ubuntupod" deleted
service "kubernetes" deleted
service "mysvc1" deleted
replicaset.apps "myrs" deleted
```

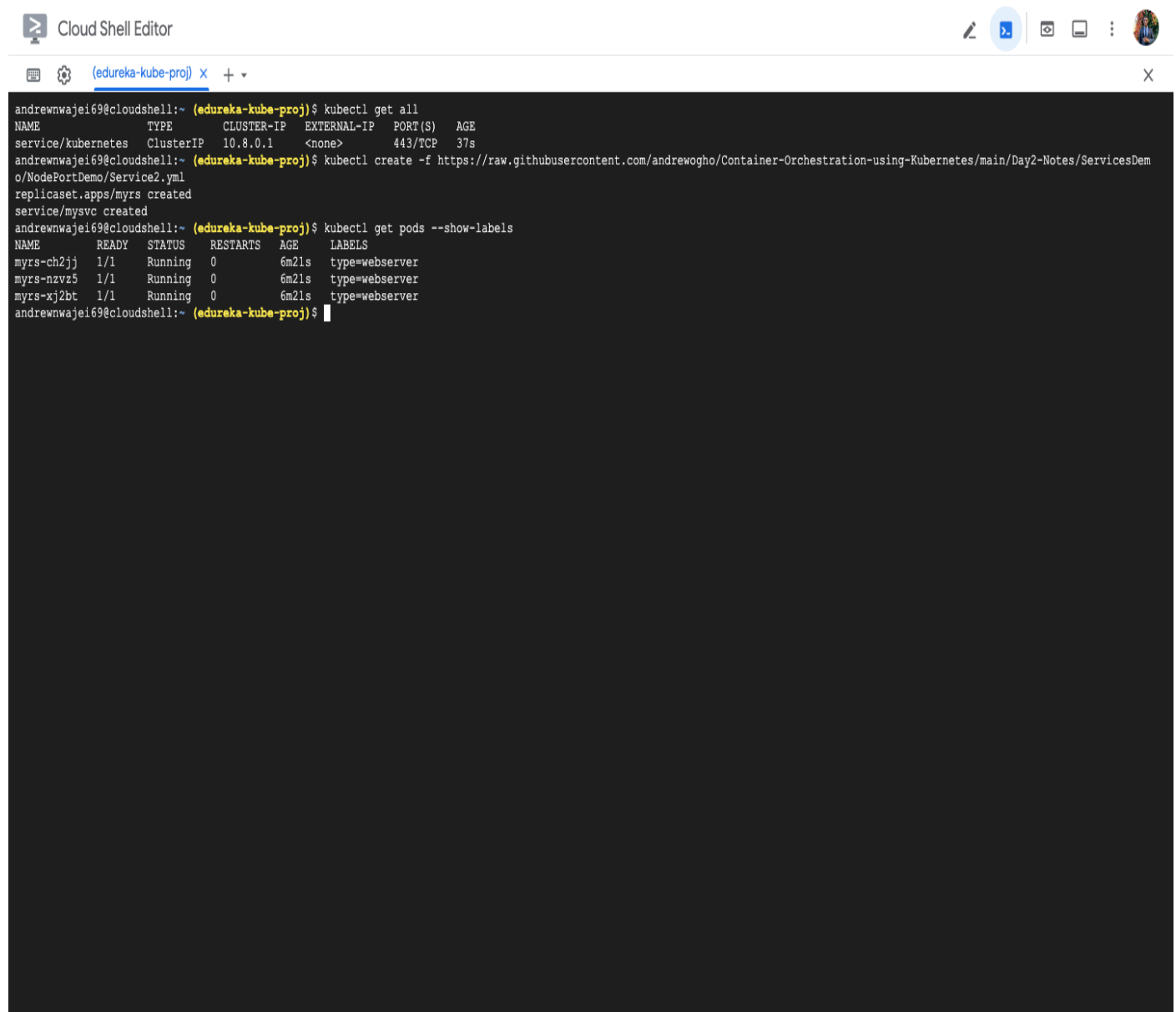
Yaml file to create replicaset and service object with nodeport.

```
---
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: myrs
spec:
  replicas: 3
  selector:
    matchLabels:
      type: webserver
  template:
    metadata:
      name: mypod
      labels:
        type: webserver
    spec:
      containers:
        - name: cl
          image: leaddevops/kubedevops:v1

---
apiVersion: v1
kind: Service
metadata:
  name: mysvc
spec:
  type: NodePort
  ports:
    - targetPort: 80
      port: 80
  selector:
    type: webserver
```

Create Service.

Commands showing created service and its label type.



The image shows a Cloud Shell Editor window with a terminal session. The user is in a project named 'edureka-kube-proj'. They run 'kubectl get all' and then 'kubectl create -f https://raw.githubusercontent.com/andrewogho/Container-Orchestration-using-Kubernetes/main/Day2-Notes/ServicesDemo/NodePortDemo/Service2.yml'. The output shows the service 'mysvc' is created. Finally, they run 'kubectl get pods --show-labels', which displays three pods with the label 'type=webserver'.

```
andrewnwaje169@cloudshell:~ (edureka-kube-proj) $ kubectl get all
NAME                                TYPE                CLUSTER-IP      EXTERNAL-IP  PORT(S)    AGE
service/kubernetes                  ClusterIP           10.8.0.1        <none>       443/TCP    37s
andrewnwaje169@cloudshell:~ (edureka-kube-proj) $ kubectl create -f https://raw.githubusercontent.com/andrewogho/Container-Orchestration-using-Kubernetes/main/Day2-Notes/ServicesDemo/NodePortDemo/Service2.yml
replicaset.apps/myrs created
service/mysvc created
andrewnwaje169@cloudshell:~ (edureka-kube-proj) $ kubectl get pods --show-labels
NAME          READY   STATUS    RESTARTS   AGE   LABELS
myrs-ch2jj    1/1     Running   0           6m21s  type=webserver
myrs-nzvz5    1/1     Running   0           6m21s  type=webserver
myrs-xj2bt    1/1     Running   0           6m21s  type=webserver
andrewnwaje169@cloudshell:~ (edureka-kube-proj) $
```

```
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$ clear
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$ kubectl get all
NAME                TYPE        CLUSTER-IP    EXTERNAL-IP  PORT(S)    AGE
service/kubernetes  ClusterIP   10.8.0.1      <none>       443/TCP    37s
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$ kubectl create -f https://raw.githubusercontent.com/andrewogho/Container-Orchestration-using-Kubernetes/main/Day2-Notes/ServicesDemo/NodePortDemo/Service2.yml
replicaset.apps/myrs created
service/mysvc created
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$ kubectl get pods --show-labels
NAME          READY   STATUS    RESTARTS   AGE   LABELS
myrs-ch2jj    1/1     Running   0           6m21s  type=webserver
myrs-nzvz5    1/1     Running   0           6m21s  type=webserver
myrs-xj2bt    1/1     Running   0           6m21s  type=webserver
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$ kubectl get pods -o wide
NAME          READY   STATUS    RESTARTS   AGE   IP           NODE                                     NOMINATED NODE   READINESS GATES
myrs-ch2jj    1/1     Running   0           7m16s  10.4.1.9     gke-cluster-1-default-pool-4f618837-j5d1  <none>            <none>
myrs-nzvz5    1/1     Running   0           7m16s  10.4.0.9     gke-cluster-1-default-pool-4f618837-19jr  <none>            <none>
myrs-xj2bt    1/1     Running   0           7m16s  10.4.2.6     gke-cluster-1-default-pool-4f618837-c9x3  <none>            <none>
andrewnwaje169@cloudshell:~ (edureka-kube-proj)$
```

Kubectl get svc <name of service created>: To show the node port number created for accessing pod as a user/ from the internet.

Cloud Shell Editor



(edureka-kube-proj) X + ▾

```
myrs-ch2jj 1/1 Running 0 7m16s 10.4.1.9 gke-cluster-1-default-pool-4f618837-j5dl <none> <none>
myrs-nzvz5 1/1 Running 0 7m16s 10.4.0.9 gke-cluster-1-default-pool-4f618837-19jr <none> <none>
myrs-xj2bt 1/1 Running 0 7m16s 10.4.2.6 gke-cluster-1-default-pool-4f618837-c9x3 <none> <none>
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ clear
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ kubectl get pods -o wide
NAME READY STATUS RESTARTS AGE IP NODE NOMINATED NODE READINESS GATES
myrs-ch2jj 1/1 Running 0 7m47s 10.4.1.9 gke-cluster-1-default-pool-4f618837-j5dl <none> <none>
myrs-nzvz5 1/1 Running 0 7m47s 10.4.0.9 gke-cluster-1-default-pool-4f618837-19jr <none> <none>
myrs-xj2bt 1/1 Running 0 7m47s 10.4.2.6 gke-cluster-1-default-pool-4f618837-c9x3 <none> <none>
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ kubectl get svc mysvc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
mysvc NodePort 10.8.0.197 <none> 80:32505/TCP 1m
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $
```


Give command to get the details of the node and copy the external-IP addresses to use it to be able to access the node from the internet or external server.

Cloud Shell Editor

(edureka-kube-proj) x + -

```
myrs-ch2jj 1/1 Running 0 7m16s 10.4.1.9 gke-cluster-1-default-pool-4f618837-j5d1 <none> <none>
myrs-nzvz5 1/1 Running 0 7m16s 10.4.0.9 gke-cluster-1-default-pool-4f618837-l9jr <none> <none>
myrs-xj2bt 1/1 Running 0 7m16s 10.4.2.6 gke-cluster-1-default-pool-4f618837-c9x3 <none> <none>
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ clear
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ kubectl get pods -o wide
NAME READY STATUS RESTARTS AGE IP NODE NOMINATED NODE READINESS GATES
myrs-ch2jj 1/1 Running 0 7m47s 10.4.1.9 gke-cluster-1-default-pool-4f618837-j5d1 <none> <none>
myrs-nzvz5 1/1 Running 0 7m47s 10.4.0.9 gke-cluster-1-default-pool-4f618837-l9jr <none> <none>
myrs-xj2bt 1/1 Running 0 7m47s 10.4.2.6 gke-cluster-1-default-pool-4f618837-c9x3 <none> <none>
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ kubectl get svc mysvc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
mysvc NodePort 10.8.0.197 <none> 80:32505/TCP 11m
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $ kubectl get nodes -o wide
NAME STATUS ROLES AGE VERSION INTERNAL-IP EXTERNAL-IP OS-IMAGE KERNEL-VERSION CONTAINER-RUNTIME
gke-cluster-1-default-pool-4f618837-c9x3 Ready <none> 98m v1.24.9-gke.3200 10.128.0.21 35.224.113.67 Container-Optimized OS from Google 5.10.161+ containerd
d://1.6.9
gke-cluster-1-default-pool-4f618837-j5d1 Ready <none> 98m v1.24.9-gke.3200 10.128.0.20 35.202.39.155 Container-Optimized OS from Google 5.10.161+ containerd
d://1.6.9
gke-cluster-1-default-pool-4f618837-l9jr Ready <none> 98m v1.24.9-gke.3200 10.128.0.19 23.251.158.164 Container-Optimized OS from Google 5.10.161+ containerd
d://1.6.9
andrewnwajei69@cloudshell:~ (edureka-kube-proj) $
```

Failure of site to be accessed because the on Google Cloud provider the node firewall needs to be opened.



This site can't be reached

35.224.113.67 took too long to respond.

Try:

- Checking the connection
- Checking the proxy and the firewall

ERR_CONNECTION_TIMED_OUT

Details

Reload

Give the command: `gcloud compute firewall-rules create rule1 --allow tcp:32505`, to allow the node port to be opened and accessed.

Cloud Shell Editor




(edureka-kube-proj) X +

X

```
myrs-ch2jj 1/1 Running 0 7m16s 10.4.1.9 gke-cluster-1-default-pool-4f618837-j5dl <none> <none>
myrs-nzvz5 1/1 Running 0 7m16s 10.4.0.9 gke-cluster-1-default-pool-4f618837-19jr <none> <none>
myrs-xj2bt 1/1 Running 0 7m16s 10.4.2.6 gke-cluster-1-default-pool-4f618837-c9x3 <none> <none>
andrewnwajei69@cloudshell:~ (edureka-kube-proj)$ clear
andrewnwajei69@cloudshell:~ (edureka-kube-proj)$ kubectl get pods -o wide
NAME READY STATUS RESTARTS AGE IP NODE NOMINATED NODE READINESS GATES
myrs-ch2jj 1/1 Running 0 7m47s 10.4.1.9 gke-cluster-1-default-pool-4f618837-j5dl <none> <none>
myrs-nzvz5 1/1 Running 0 7m47s 10.4.0.9 gke-cluster-1-default-pool-4f618837-19jr <none> <none>
myrs-xj2bt 1/1 Running 0 7m47s 10.4.2.6 gke-cluster-1-default-pool-4f618837-c9x3 <none> <none>
andrewnwajei69@cloudshell:~ (edureka-kube-proj)$ kubectl get svc mysvc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
mysvc NodePort 10.8.0.197 <none> 80:32505/TCP 11m
andrewnwajei69@cloudshell:~ (edureka-kube-proj)$ kubectl get nodes -o wide
NAME STATUS ROLES AGE VERSION INTERNAL-IP EXTERNAL-IP OS-IMAGE KERNEL-VERSION CONTAINER
-RUNTIME
gke-cluster-1-default-pool-4f618837-c9x3 Ready <none> 98m v1.24.9-gke.3200 10.128.0.21 35.224.113.67 Container-Optimized OS from Google 5.10.161+ container
d://1.6.9
gke-cluster-1-default-pool-4f618837-j5dl Ready <none> 98m v1.24.9-gke.3200 10.128.0.20 35.202.39.155 Container-Optimized OS from Google 5.10.161+ container
d://1.6.9
gke-cluster-1-default-pool-4f618837-19jr Ready <none> 98m v1.24.9-gke.3200 10.128.0.19 23.251.158.164 Container-Optimized OS from Google 5.10.161+ container
d://1.6.9
andrewnwajei69@cloudshell:~ (edureka-kube-proj)$ gcloud compute firewall-rules create rule1 --allow tcp:32505
Creating firewall...working..Created [https://www.googleapis.com/compute/v1/projects/edureka-kube-proj/global/firewalls/rule1].
Creating firewall...done.
NAME: rule1
NETWORK: default
DIRECTION: INGRESS
PRIORITY: 1000
ALLOW: tcp:32505
DENY:
DISABLED: False
andrewnwajei69@cloudshell:~ (edureka-kube-proj)$
```


One of my created replicaset pods being accessed through the internet by using:
<http://35.224.113.67:32505/>

This is v1 pod myrs-xj2bt

Press  to exit full screen

The End.