

Step 1 - Creating a Pod with Label NGINX

Create a YAML File vi pod.yaml

apiVersion: v1 kind: Pod metadata:

name: label-demo

labels:

environment: production

app: nginx

spec:

containers:
- name: nginx image: nginx ports:

- containerPort: 80

kubectl create -f pod.yaml

root@kubernetes_master:/home/ubuntu# kubectl create _f pod.yaml pod/label_demo created

Valide if Pod is running correctly

Kubectl get pods

root@kubernetes_master:/home/ubuntu# kubectl^lget^Epods NAME READY STATUS^{t@wc}RESTARTShomAGEbuntu# sudo swapoff label_demo 1/1 Running^{@wc@ker_1}:/hom8subuntu#



Step 2 - Creating a Node Port Service

vi pod-node-selector.yaml

apiVersion: v1 kind: Service metadata:

name: nginx-nodeport

spec:

type: NodePort

ports:

port: 8080 targetPort: 80 nodePort: 30111

selector: app: nginx

kubectl create -f nopdeport-service.yaml

[root@kubernetes=master:/home/ubuntu# kubectl creates=f=nodeport=service.yaml=ou service/nginx=nodeport created low the guide at https://kubernetes.io/docs/setup

Validate Service is running NodePort

[root@kubernetes-master:/home/ubuntu#ikübect[=get=\$vcght: [preflight] Some fatal ex							
NAME	TYPE	CLUSTERDÎPFîleAvEXTERNAL-IPC-KPORT(S)es-kubeletAGEnf]					
kubernetes	ClusterIP	10.96.0.1 Port-1⊋none> Port 18443/TCP in use 27h					
nginx-nodeport	NodePort	10.108.28.234 Avanones e etc-k8080:30111/TCP a 3st]:					



Step 3 - Test Node Port Service

kubectl get nodes -o wide

```
STATUSUPOROLES are AGE un
                                               VERSIÓN:
                                                        INTERNAL-IP
                                                                       EXTERNAL-IP
                                                                                                            KERNEL-VERSION
                                                                                                                              CONTAINER-RUNTIME
                                                                                      Ubuntu 18.04.3 LTS
kubernetes-master
                   Ready
                             master
                                              v1.18.1
                                                         10.1.0.109
                                                                        ⊲none>
                                                                                                           4.15.0-1057-aws
                                                                                                                              docker://19.3.8
                                                                                      Ubuntu 18.04.3 LTS
Ubuntu 18.04.3 LTS
worker-1
                                                                                                          4.15.0-1057-aws
                    Ready
                             ⊲none>
                                      3h15m
                                              v1.18.1
                                                         10.1.0.188
                                                                        ⊲none>
                                                                                                                              docker://19.3.8
worker-2
                                              V1.18.1
                                                                                                          4.15.0-1057-aws
                                                                                                                              docker://19.3.8
                    Ready
                             ⊲none>
                                      26h
                                                        10.1.0.85
                                                                        ⊲none>
```

curl <Kubernetes-master_IP_Addr>:30111

curl <Worker-1_IP_Addr>:30111

curl <Worker-2_IP_Addr>:30111

```
root@kubernetes_master:/home/ubuntu#tourl 10.100.85:30111ape.canonic
<!DOCTYPE html>
⊲html>
<head>
<title>Welcome to nginx!</title>
⊲style>
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
</style>
</head>
<br/>dody>
<h1>Welcome to nainx!</h1>
If you see this page, the nginx web server is successfully installed and whind enterprise
working. Further configuration is required ypstotyping for cloud operations just got easier
For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.dbr/>
Commercial support is available at

√a href="http://nginx.com/">nginx.com</a>.√a>.√p> updates.

<em>Thank you for using nginx.</em>
</body>
</html>
```



Step 4 - Create a Service Cluster-IP

Use the same Pod created in the last steps

Create a Service Cluster-IP YAML File

vi cluster-ip-service.yaml

apiVersion: v1 kind: Service metadata: name: nginx spec:

spec: ports:

> port: 8080 targetPort: 80

selector: app: nginx

kubectl create -f cluster-ip-service.yaml

root@kubernetes-master:/home/ubuntu# kubectl create -f cluster-ip-service.yaml service/nginix created 34 packages can be updated.

Validate the Cluster-IP Service and the IP address

Nginx - Cluster IP - IP Addres

root@kubernetes-master:/home/ubuntu#-kubectl-get svc=s							
NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE		
kubernetes	ClusterIP	10.96.0.1	⊲none>	443/TCP	27h		
nginix	ClusterIP	S101109182147t	re≼none> ****	8080/TCP	10s		



Test the access to the Pod with the Cluster-IP Address

Example:

curl 10.109.82.47:8080

```
root@kubernetes-master:/home/ubuntu# curl http://10.109.82.47
۸Ċ
root@kubernetes-master:/home/ubuntu#"curl=10.109.82.47:8080"annel=1.18
<!DOCTYPE html>
⊲html>
⊲head>
<title>Welcome to nginx!</title>
⊲style>|
   body {
      width: 35em;
      margin: 0 auto; 0 updates are security update
       font-family: Tahoma, Verdana, Arial, sans-serif;
</style>
</head>
dody>
<h1>Welcome to nginx!</h1>ot@worker=1:/home/ubuntu#
√p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.
For online documentation and support please refer to
⊲a href="http://nginx.org/">nginx.org</a>.⊲br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>, 
</body>
</html>
```

Step 5 - Delete both services NodePort and Cluster-IP

kubectl delete svc nginx-nodeport

kubectl delete svc nginx

[root@kubernetes=master:/home/ubuntu# kubectl=deletelsvclnginx=nodeportes of dat service "nginx=nodeport" deleted from kubernetes=master (10.1.0.109): icmp_seq=