

Exercise 9.2: Configure a NodePort

In a previous exercise we deployed a LoadBalancer which deployed a ClusterIP and NodePort automatically. In this exercise we will deploy a NodePort. While you can access a container from within the cluster, one can use a NodePort to NAT traffic from outside the cluster. One reason to deploy a NodePort instead, is that a LoadBalancer is also a load balancer resource from cloud providers like GKE and AWS.

1. In a previous step we were able to view the **nginx** page using the internal Pod IP address. Now expose the deployment using the `--type=NodePort`. We will also give it an easy to remember name and place it in the `accounting` namespace. We could pass the port as well, which could help with opening ports in the firewall.

```
student@cp:~$ kubectl -n accounting expose deployment nginx-one --type=NodePort --name=service-lab
```

```
service/service-lab exposed
```

2. View the details of the services in the `accounting` namespace. We are looking for the autogenerated port.

```
student@cp:~$ kubectl -n accounting describe services
```

```
....  
NodePort:                <unset>  32103/TCP  
....
```

3. Locate the exterior facing hostname or IP address of the cluster. The lab assumes use of GCP nodes, which we access via a FloatingIP, we will first check the internal only public IP address. Look for the Kubernetes cp URL. Whichever way you access check access using both the internal and possible external IP address

```
student@cp:~$ kubectl cluster-info
```

```
Kubernetes control plane is running at https://k8scp:6443  
CoreDNS is running at https://k8scp:6443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy  
  
To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
```

4. Test access to the **nginx** web server using the combination of cp URL and NodePort.

```
student@cp:~$ curl http://k8scp:32103
```

```
<!DOCTYPE html>  
<html>  
<head>  
<title>Welcome to nginx!</title>
```

5. Using the browser on your local system, use the public IP address you use to SSH into your node and the port. You should still see the **nginx** default page. You may be able to use **curl** to locate your public IP address.

```
student@cp:~$ curl ifconfig.io
```

```
104.198.192.84
```