



Kubernetes

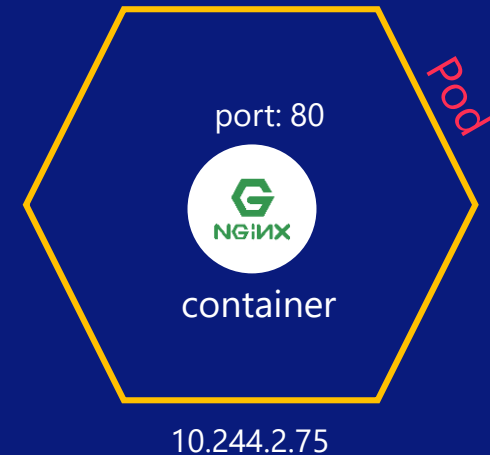
Port-forward

- Often times you want to be able to temporarily communicate with applications in your cluster without exposing them to the public internet for security reasons
- To achieve this, the `port-forward` command allows you to securely forward a port on your local machine through the kubernetes API server to a Pod running in your cluster
- You can use this method to investigate issues and adjust your services locally without the need to expose them beforehand
- `kubectl port-forward` gives you direct network access to a port of a pod, for test purposes. It establishes a tunnel from the target pod to your `localhost`. The command requires you to define the type or name of the resource as well as `local` and `remote` port numbers

Syntax:

```
kubectl port-forward --address <local-ip> <resource-name> <local-port>:<resource-port> -n <name-space>
```

i Absence of address defaults to local host and namespace to default



Kubernetes

Port-forward

Run a nginx pod at port 80 and check the node where it is running

```
kubectl run nginx-pod --image=nginx --port=80
```

Port forward the traffic from local port 8080 to remote port of the container which is 80

```
kubectl port-forward nginx-pod 8080:80
```

```
root@k8s-master:/home/osboxes# kubectl run nginx-pod --image=nginx --port=80
pod/nginx-pod created
root@k8s-master:/home/osboxes# kubectl get po -o wide
NAME          READY   STATUS    RESTARTS   AGE   IP            NODE          NOMINATED NODE
nginx-pod     1/1     Running   0          31s   10.244.1.244  k8s-slave01   <none>
root@k8s-master:/home/osboxes# kubectl port-forward nginx-pod 8080:80
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80
```

Open another terminal and run below command to query the localhost

```
curl 127.0.0.1:8080
```

```
root@k8s-master:/home/osboxes# curl 127.0.0.1:8080
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
  body {
    width: 35em;
    margin: 0 auto;
    font-family: Tahoma, Verdana, Arial, sans-serif;
  }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>
```

Port-forward

We can also specify a local IP address for Port Forwarding.

In the below case, port forward the traffic on specified IP and Port to remote pod running on port 80. The IP address in the example is the IP of master node

```
kubectl port-forward --address localhost,192.168.0.112 nginx-pod 9090:80
```

```
root@k8s-master:/home/osboxes# kubectl port-forward --address localhost,192.168.0.112 nginx-pod 9090:80
Forwarding from 127.0.0.1:9090 -> 80
Forwarding from 192.168.0.112:9090 -> 80
Forwarding from [::1]:9090 -> 80
█
```

Open a browser and point to the IP and Port used for port forwarding

