# Kubectl for Docker Beginners

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# Kubectl for Docker Beginners

Kubectl is a command line interface for running commands against Kubernetes clusters. `kubectl` looks for a file named config in the `$HOME/.kube` directory. You can specify other kubeconfig files by setting the `$KUBECONFIG` environment variable or by setting the `--kubeconfig` flag.

# Example: Running Nginx Service

## PWD:

```
docker run -d --restart=always -e DOMAIN=cluster --name nginx-app -p 80:80 n
```

```
[node4 ~]$ docker exec -it 9dc env
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
```

```
HOSTNAME=9dc0816328dcTERM=xterm
DOMAIN=cluster
NGINX_VERSION=1.17.6
NJS_VERSION=0.3.7
PKG_RELEASE=1~buster
HOME=/root
```

## PWK:

Start the pod running nginx

```
kubectl run --image=nginx nginx-app --port=80 --env="DOMAIN=cluster"
```

Expose a port through with a service

```
kubectl expose deployment nginx-app --port=80 --name=nginx-http
```

```
[node1 replicaset101]$ kubectl get po,svc,deploy
NAME                            READY    STATUS    RESTARTS    AGE
pod/nginx-app-7c58988fb9-sckpd  1/1      Running   0           3m12s
pod/portainer-8586dccbb5-x66vk  1/1      Running   1           49m

NAME                TYPE           CLUSTER-IP      EXTERNAL-IP    PORT(S)
service/kubernetes  ClusterIP      10.96.0.1       <none>         443/TCP
service/nginx-http  ClusterIP      10.108.29.166   <none>         80/TCP
service/portainer   LoadBalancer   10.98.58.121    <pending>      80:32001/T

NAME                                READY    UP-TO-DATE   AVAILABLE   AGE
deployment.extensions/nginx-app     1/1      1            1           3m15s
deployment.extensions/portainer     1/1      1            1           49m
[node1 replicaset101]$ curl 10.108.29.166:80
<!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>

<p>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>.</p>

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

# Example: Listing Containers Vs Pods

## PWD

```
docker ps -a
```

## PWK

```
kubectl get po
```

# Example: Attach a process that is already

# running in a container

```
docker ps
docker attach <containerid>
```

```
kubectl get pods
NAME               READY     STATUS     RESTARTS    AGE
nginx-app-5jyvm    1/1       Running    0           10m
```

```
kubectl attach -it nginx-app-5jyvm
...
```

# Example: To execute a command in a container,

## PWD

```
docker ps
CONTAINER ID        IMAGE          COMMAND                  CREATED
55c103fa1296        nginx          "nginx -g 'daemon of…"   6 minutes a
```

```
docker exec 55c103fa1296 cat /etc/hostname
55c103fa1296
```

## PWK

```
kubectl get po
NAME                READY       STATUS     RESTARTS    AGE
```

```
nginx-app-5jyvm     1/1          Running    0            10m
```

```
kubectl exec nginx-app-5jyvm -- cat /etc/hostname
nginx-app-5jyvm
```

# Example: To use interactive commands.

## PWD

```
docker exec -ti 55c103fa1296 /bin/sh
# exit
```

## PWK

```
kubectl exec -ti nginx-app-5jyvm -- /bin/sh
# exit
```

# Example: To follow stdout/stderr of a process that is running

## PWD

```
docker logs -f a9e
192.168.9.1 - - [14/Jul/2015:01:04:02 +0000] "GET / HTTP/1.1" 200 612 "-" "c
192.168.9.1 - - [14/Jul/2015:01:04:03 +0000] "GET / HTTP/1.1" 200 612 "-" "c
```

## PWK

```
kubectl logs -f nginx-app-zibvs
10.240.63.110 - - [14/Jul/2015:01:09:01 +0000] "GET / HTTP/1.1" 200 612 "-"
10.240.63.110 - - [14/Jul/2015:01:09:02 +0000] "GET / HTTP/1.1" 200 612 "-"
```

```
kubectl logs --previous nginx-app-zibvs
10.240.63.110 - - [14/Jul/2015:01:09:01 +0000] "GET / HTTP/1.1" 200 612 "-"
10.240.63.110 - - [14/Jul/2015:01:09:02 +0000] "GET / HTTP/1.1" 200 612 "-"
```

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