

DEPLOY FIRST APPLICATION IN KUBERNETES

First you need to install minikube and kubectl on your machine for creating cluster and interacting with kubernetes.

Commands to install minikube and kubectl -

1: Install Chocolatey (if not already installed)

Open PowerShell as Administrator and run:

- Set-ExecutionPolicy Bypass -Scope Process -Force; `
- [System.Net.ServicePointManager]::SecurityProtocol =
- [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; `
- iex ((New-Object System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1'))

2. Install kubectl

- choco install kubernetes-cli -y
- kubectl version --client

3. Install Minikube

- choco install minikube -y
- minikube version

4. Install a Hypervisor

- choco install virtualbox -y

5. Start the minikube

- minikube start --driver=docker

If you are using virtual box use this command

- minikube start --driver=virtualbox

Once you start the minikube the cluster is created and then you can interact with kubernetes

7. Create a pod (create yaml file to create a pod)

Firstpod.yaml

apiVersion: v1

```
kind: Pod
metadata:
  name: nginx
spec:
  containers:
  - name: nginx
    image: nginx:1.14.2
    ports:
    - containerPort: 80
```

8. Apply the changes to create yaml file

- kubectl apply -f Firstpod.yaml
- kubectl get pods -o wide (shows the cluster IP)

Your pod will be created and you can access the application from pod cluster IP by logging into cluster

- Minikube ssh (login to cluster)
- Curl 10.244.0.3 (accessing the application inside cluster)
- Kubectl get logs (check the logs)

**** How do you debug the pod****

- kubectl describe pod nginx
- kubectl logs nginx

9. Create a deployment

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
  labels:
    app: nginx
spec:
  replicas: 3
  selector:
    matchLabels:
      app: nginx
  template:
```

metadata:

labels:

app: nginx

spec:

containers:

- name: nginx

image: nginx:1.14.2

ports:

- containerPort: 80

10 . Give service to the deployment

- expose deployment nginx-deployment --type=nodeport --port=80

11 . Access your application

- minikube service nginx-deployment