

# Kubernetes



# Kubernetes

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## Cluster Setup and Management Home Work

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## Environment:

Host

OS Name	Microsoft Windows 10 Pro
Version	10.0.19044 Build 19044

## Docker

```
Client:
Cloud integration: v1.0.25
Version:          20.10.16
API version:      1.41
Go version:       go1.17.10
Git commit:       aa7e414
Built:            Thu May 12 09:17:07 2022
OS/Arch:          windows/amd64
Context:          default
Experimental:     true

Server: Docker Desktop 4.9.1 (81317)
Engine:
Version:          20.10.16
API version:      1.41 (minimum version 1.12)
Go version:       go1.17.10
Git commit:       f756502
```

## Tasks Solution

2. Create a three node KIND-based Kubernetes cluster and deploy a simple app on it. For example, shekeriev/k8s-oracle from the previous HW

- Downloading kind: <https://kind.sigs.k8s.io/docs/user/quick-start/>
- Creating kind cluster

**.\kind-windows-amd64.exe create cluster --config .\homework-cluster-config.yaml**

```
PS D:\HUB\SoftUni\Kubernetes\local\M2_ClusterSetUpAndManagment\homework> .\kind-windows-amd64.exe create cluster --config .\homework-cluster-config.yaml
Creating cluster "kind" ...
 ✓ Ensuring node image (kindest/node:v1.24.0)
 ✓ Preparing nodes
 ✓ Writing configuration
 ✓ Starting control-plane
 ✓ Installing CNI
 ✓ Installing StorageClass
 ✓ Joining worker nodes
Set kubectl context to "kind-kind"
You can now use your cluster with:

kubectl cluster-info --context kind-kind

Have a nice day!
PS D:\HUB\SoftUni\Kubernetes\local\M2_ClusterSetUpAndManagment\homework> kubectl.exe cluster-info --context kind-kind
Kubernetes control plane is running at https://127.0.0.1:56438
CoreDNS is running at https://127.0.0.1:56438/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy
```

```
PS D:\HUB\SoftUni\Kubernetes\local\M2_ClusterSetUpAndManagment\homework> .\kind-windows-amd64.exe get clusters
kind
PS D:\HUB\SoftUni\Kubernetes\local\M2_ClusterSetUpAndManagment\homework> .\kind-windows-amd64.exe get nodes
kind-worker2
kind-worker
kind-control-plane
```

- Deploy application

**kubectl.exe apply -f .\oracle-deployment.yaml**

```
PS D:\HUB\SoftUni\Kubernetes\local\M2_ClusterSetUpAndManagment\homework> kubectl.exe get pods
NAME                                READY   STATUS             RESTARTS   AGE
oracle-depl-668df66b9-59mrf        0/1     ContainerCreating   0           44s
oracle-depl-668df66b9-dpmw5        0/1     ContainerCreating   0           44s
oracle-depl-668df66b9-lgwfr        1/1     Running             0           18m
PS D:\HUB\SoftUni\Kubernetes\local\M2_ClusterSetUpAndManagment\homework> kubectl.exe get services
NAME          TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
kubernetes    ClusterIP   10.96.0.1    <none>        443/TCP          20m
oracle-svc     NodePort    10.96.187.82 <none>        5000:30500/TCP   18m
```

- Visit app

