

Kubernetes WEB UI - Dashboard deployment steps

Prepared by Atul Sharma
(MS - CNE Student)
Guided by Sudhendu Kumar

Kubernetes Dashboard

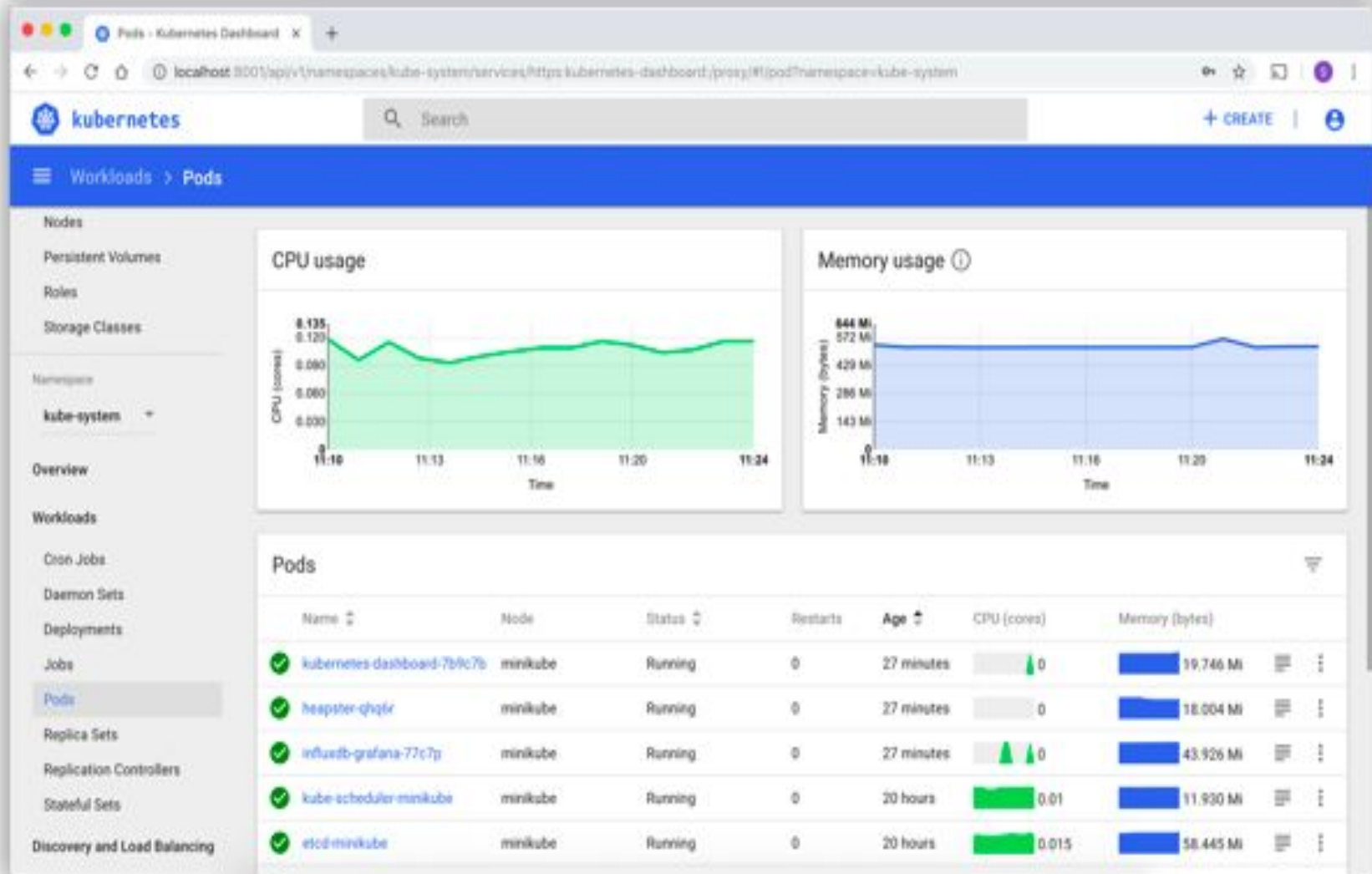
Dashboard is web based interface. You can perform all kind of tasks using dashboard and can have graphical view of the cluster.

You can -

1. Manage containers
2. Troubleshoot container applications
3. View, Create or modify resources such as deployment, daemon sets, jobs, services, pods etc.

The Dashboard UI is not deployed by default. You have to do it.

Web UI of Kubernetes Dashboard



Steps to deploy Kubernetes Dashboard

Deploying the Dashboard UI

- ❏ `kubectl apply -f`
<https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0/aio/deploy/recommended.yaml>
- ❏ `kubectl proxy`
(proxy will listen on port 8001. Make sure to open in other terminal)

2. To access Dashboard you should have administrator access rights on the token you generate.

So creating an admin user is important step.

create yaml file and apply :- dashboard-adminuser.yaml

```
apiVersion: v1
kind: ServiceAccount
metadata:
  name: admin-user
  namespace: kubernetes-dashboard
```

kubectl apply -f dashboard-adminuser.yaml

```
ece792@t13vm5:~$ kubectl apply -f dashboard-adminuser.yaml
serviceaccount/admin-user created
```

3. Create cluster role binding of admin user with Kubernetes-dashboard cluster -> clusterrole.yaml

```
apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
  name: admin-user
roleRef:
  apiGroup: rbac.authorization.k8s.io
  kind: ClusterRole
  name: cluster-admin
subjects:
- kind: ServiceAccount
  name: admin-user
  namespace: kubernetes-dashboard
```

```
kubectl apply -f clusterrole.yaml
```

Output -

```
ece792@t13vm5:~$ kubectl apply -f clusterrole.yaml  
clusterrolebinding.rbac.authorization.k8s.io/admin-user created
```

4. Port Forwarding (access in other terminal)

If you are using RND Lab VMs then use port forwarding till student VM

```
ssh ece792@<152.14.83.16x> -L 8080:127.0.0.1:8000
```

```
ssh ece792@<Student VM> -L 8000:127.0.0.1:8001
```

Run below command now which will enable traffic on port 8001

```
kubectl proxy
```

5. Generate a Token -

```
kubectl -n kubernetes-dashboard describe secret $(kubectl -n  
kubernetes-dashboard get secret | grep admin-user | awk '{print $1}')
```

Copy token

6. Link to access cluster -

As you have enabled port 8080 in step 4 on your laptop, use below link to access dashboard.

Note- you can use any port you want in step 4 but make sure use same port while accessing in web.

<http://localhost:8080/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/>

Sign in after pasting token. You will see page as shown in slide 3.

Ref links -

<https://github.com/kubernetes/dashboard>

<https://kubernetes.io/docs/tasks/access-application-cluster/web-ui-dashboard/>

<https://github.com/kubernetes/dashboard/blob/master/docs/user/access-control/creating-sample-user.md>

<https://github.com/kubernetes/dashboard/blob/master/docs/user/accessing-dashboard/README.md>

Thank you