**Setting Up Kubernetes Dashboard on Kubeadm Cluster**

The **Kubernetes Dashboard** is a web-based UI for managing Kubernetes clusters. Follow these steps to deploy and access it on a **kubeadm**-based cluster.

**Step 1: Deploy the Kubernetes Dashboard**

Apply the official **Kubernetes Dashboard** YAML file:

**kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.7.0/aio/deploy/recommended.yaml**

This deploys the Dashboard, its services, and necessary components.

**Step 2: Verify Deployment**

Check if the kubernetes-dashboard pod is running:

**kubectl get pods -n kubernetes-dashboard**

If everything is fine, you should see output like:

NAME READY STATUS RESTARTS AGE

kubernetes-dashboard-xxxx-yyyy 1/1 Running 0 30s

dashboard-metrics-scraper-xxxx-yyyy 1/1 Running 0 30s

**Step 3: Create Admin User & Role Binding**

By default, the Dashboard has limited access. To enable full control, create a service account and bind it to the cluster-admin role.

**dashboard-admin.yaml**

apiVersion: v1

kind: ServiceAccount

metadata:

  name: admin-user

  namespace: kubernetes-dashboard

**cluster-admin.yaml**

apiVersion: rbac.authorization.k8s.io/v1

kind: ClusterRoleBinding

metadata:

  name: admin-user-binding

roleRef:

  apiGroup: rbac.authorization.k8s.io

  kind: ClusterRole

  name: cluster-admin

subjects:

- kind: ServiceAccount

  name: admin-user

  namespace: kubernetes-dashboard

**Apply the Roles :**  
kubectl apply -f dashboard-admin.yaml  
kubectl apply -f cluster-admin.yaml

**Step 4: Get the Authentication Token**

To log in to the Dashboard, fetch the token for the admin-user:

**kubectl -n kubernetes-dashboard create token admin-user**

Copy this token for later use.

**Step 5: Access the Dashboard**

**Expose via NodePort (Remote Access)**

If you need to access the Dashboard externally:

1. Edit the Dashboard service:

**kubectl -n kubernetes-dashboard edit svc kubernetes-dashboard**

1. Change ***type:*** **ClusterIP** to ***type:*** **NodePort** and save.
2. Get the NodePort assigned:

**kubectl -n kubernetes-dashboard get svc kubernetes-dashboard**

Example output:

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE

kubernetes-dashboard NodePort 10.96.183.22 <none> 443:32000/TCP 5m

In this case, **port 32000** is assigned.

1. Access the Dashboard in a browser using:

**https://<NODE-IP>:32000**

* + Replace <NODE-IP> with your Kubernetes master node IP (ipconfig)
  + Use the **authentication token** obtained earlier.

**Step 6: Confirm Everything is Working**

Run:

kubectl get pods -n kubernetes-dashboard

kubectl get svc -n kubernetes-dashboard

Check logs if any issues occur:

kubectl logs -n kubernetes-dashboard -l k8s-app=kubernetes-dashboard