Kube2SONiC

Container Management

Oct 2023

Revision History

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Introduction

A Kubernetes dashboard is a web-based user interface designed for managing Kubernetes clusters. It serves as a crucial tool for deploying and managing containerized applications to Kubernetes clusters, monitoring and troubleshooting those applications, and overseeing the management of the cluster and its associated resources. This user-friendly interface streamlines the interaction with Kubernetes, facilitating efficient container orchestration and cluster administration tasks.

K8s Cluster

Node	**OS version**
Master	Ubuntu 22.0
Worker	SONiC

The kubernetes cluster should be deployed with at least one master and one worker node.

Verify Installation

Check and verify all nodes are in Ready state

```python
kubectl get nodes
```

Check and verify all the k8s pods are up and running

```python
kubectl get pods -n kube-system
```

Container management

Deploy k8s Dashboard

Run the following command to deploy the dashboard:

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

Check and verify all pods of **kubernetes-dashboard** are running

```
Python
kubectl get pods -n kubernetes-dashboard
```

 # Access the dashboard

Start the proxy server between your machine and Kubernetes API server.

```
Python
kubectl proxy
```

Access the dashboard from browser and enter the URL

http://localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/#/login

 # Create Admin Service Account

```
Python
kubectl create serviceaccount dashboard -n default
```

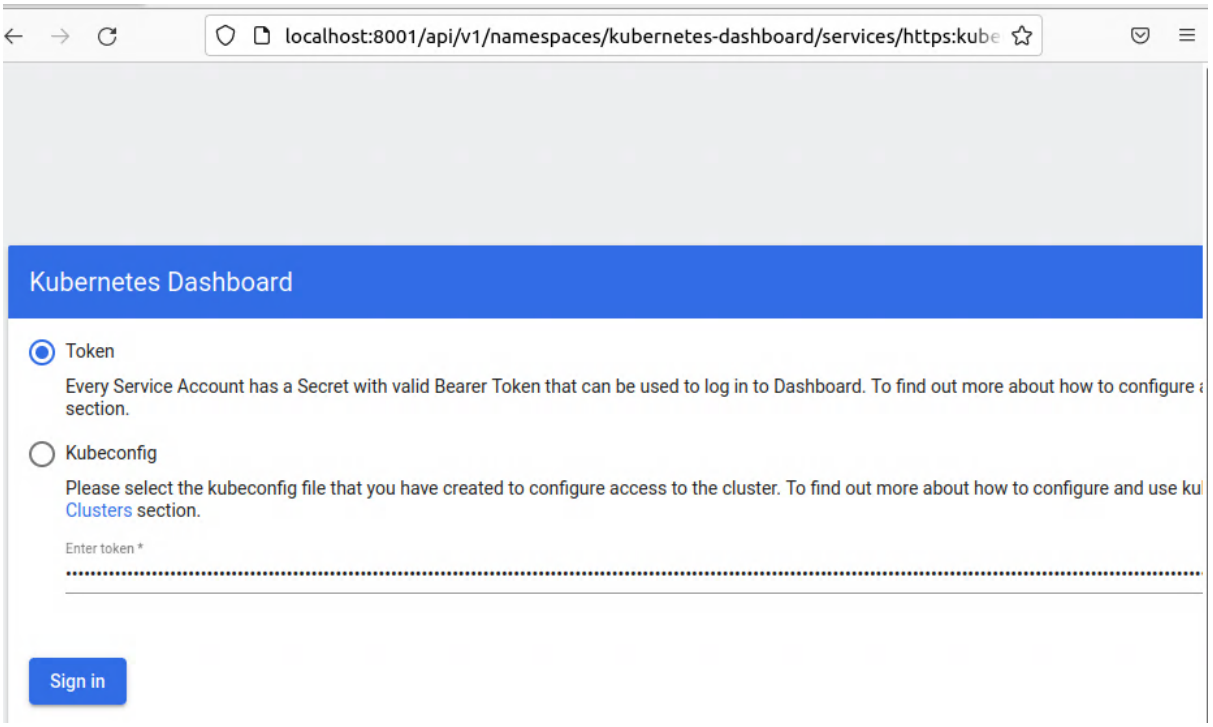
 # Add the cluster role binding

```
Python
kubectl create clusterrolebinding dashboard-admin -n default
--clusterrole=cluster-admin --serviceaccount=default:dashboard
```

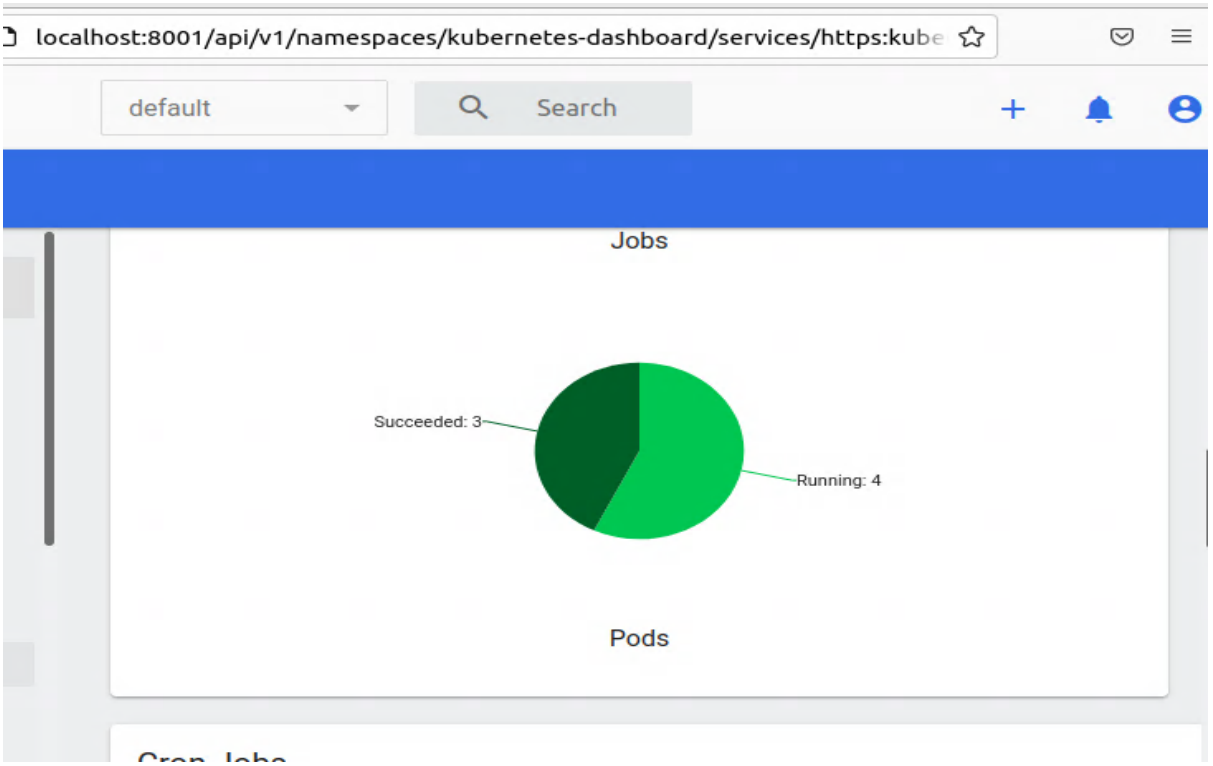
 # Get the secret token to access the dashboard

```
Python
kubectl get secret $(kubectl get serviceaccount dashboard -o
jsonpath="{.secrets[0].name}") -o jsonpath="{.data.token}" | base64 --decode
```

Copy the secret token and paste it in Dashboard Login Page, by selecting a token option



Access pods



Now you can manage your SONiC containers through kubernetes dashboard

snmp-ctjpq	docker-snmp:latest	controller-revision-hash: df4bf78dc name: snmp pod-template-generation: 1	worker1	Running	0	-	-
sonic-mgmnt-xltwx	docker-sonic-mgmt-framework:latest	controller-revision-hash: 8cb769b4d name: sonic-mgmnt pod-template-generation: 1	worker2	Running	0	-	-
pmon-xnnxh	docker-sonic-telemetry:latest	controller-revision-hash: cbc69b866 name: pmon pod-template-generation: 1	worker2	Running	0	-	-
telemetry-8rff2	docker-sonic-telemetry:latest	controller-revision-hash: 56d5f78999 name: telemetry pod-template-generation: 1	worker2	Running	0	-	-

You can access the shell and execute commands