SERVICE ACCOUNTS

Certified Kubernetes Administrator (CKA)

12% - Security

- Know how to configure authentication and authorization.
- Understand Kubernetes security primitives.
- Know to configure network policies.
- Create and manage TLS certificates for cluster components.
- Work with images securely.
- Define security contexts.
- Secure persistent key value store.

Certified Kubernetes Application Developer (CKAD)

18% - Configuration

- Understand ConfigMaps
- Understand SecurityContexts
- Define an application's resource requirements
- Create & consume Secrets
- Understand ServiceAccounts
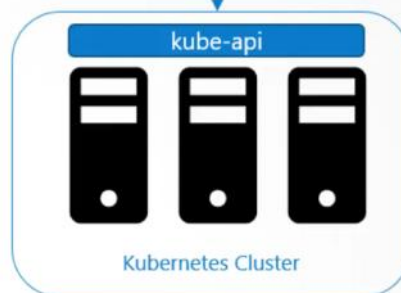
User

Admin   Developer

Service

Prometheus   Jenkins

My Kubernetes Dashboard

Name	State	Containers	Service Account	IP
tnr	Running	1	default	10.244.1.219
blue-56c7d06088-49ozd	Running	1	default	10.244.1.221
blue-56c7d06088-6jmkd	Running	1	default	10.244.1.216
blue-56c7d06088-5xdh	Running	1	default	10.244.1.222
blue-56c7d06088-knxa2	Running	1	default	10.244.1.218

```
kubectl create serviceaccount dashboard-sa
serviceaccount "dashboard-sa" created
```

```
kubectl get serviceaccount
NAME            SECRETS    AGE
default         1          218d
dashboard-sa    1          4d
```

```
kubectl describe serviceaccount dashboard-sa
Name:                 dashboard-sa
Namespace:            default
Labels:               <none>
Annotations:          <none>
Image pull secrets:   <none>
Mountable secrets:    dashboard-sa-token-kbbdm
Tokens:               dashboard-sa-token-kbbdm
Events:               <none>
```

```
Tokens:               dashboard-sa-token-kbbdm
```

```
▶ kubectl describe serviceaccount dashboard-sa
Name:                  dashboard-sa
Namespace:             default
Labels:                <none>
Annotations:           <none>
Image pull secrets:    <none>
Mountable secrets:     dashboard-sa-token-kbbdm
Tokens:                dashboard-sa-token-kbbdm
Events:                <none>
```

```
▶ kubectl describe secret dashboard-sa-token-kbbdm
Name:          dashboard-sa-token-kbbdm
Namespace:     default
Labels:        <none>

Type:   kubernetes.io/service-account-token

Data
====
ca.crt:        1025 bytes
namespace:     7 bytes
token:
eyJhbGciOiJSUzI1NiIsImtpZCI6IiJ9.eyJpc3MiOiJrdWJlcm5ldGVzL3NlcnZpY2VhY2NvdW50Iiwia3ViZXJuZXRlcy5pby9zZXJ2aWNlYWNjb3V
udC9uYW1lc3BhY2UiOiJkZWZhdWx0Iiwia3
```

```
▶ curl https://192.168.56.70:6443/api —insecure
    --header "Authorization: Bearer
```
eyJhbGciOiJSUzI1NiIsImtp
ZCI6IiJ9.eyJpc3MiOiJrdWJ
lcm5ldGVzL3NlcnZpY2VhY2N
vdW50Iiwia3ViZXJuZXRlcy5
pby9zZXJ2aWNlYWNjb3VudC...

Secret

token:
eyJhbGciOiJSUzI1NiIsImtp
ZCI6IiJ9.eyJpc3MiOiJrdWJ
lcm5ldGVzL3NlcnZpY2VhY2N
vdW50Iiwia3ViZXJuZXRlcy5
pby9zZXJ2aWNlYWNjb3VuZC...

Secret

token:
eyJhbGciOiJSUzI1NiIsImtp
ZCI6IiJ9.eyJpc3MiOiJrdWJ
lcm5ldGVzL3NlcnZpY2VhY2N
vdW50Iiwia3ViZXJuZXRlcy5
pby9zZXJ2aWNlYWNjb3VuZC...

```
kubectl get serviceaccount
NAME                    SECRETS    AGE
default                 1          218d
dashboard-sa            1          4d
```

```
pod-definition.yml
apiVersion: v1
kind: Pod
metadata:
  name: my-kubernetes-dashboard
spec:

  containers:
    - name: my-kubernetes-dashboard
      image: my-kubernetes-dashboard
```

```
kubectl describe pod my-kubernetes-dashboard
Name:          my-kubernetes-dashboard
Namespace:     default
Annotations:   <none>
Status:        Running
IP:            10.244.0.15
Containers:
  nginx:
    Image:           my-kubernetes-dashboard
Mounts:
       /var/run/secrets/kubernetes.io/serviceaccount from default-token-j4hkv (ro)
Conditions:
  Type              Status
Volumes:
  default-token-j4hkv:
    Type:           Secret (a volume populated by a Secret)
    SecretName:     default-token-j4hkv
    Optional:       false
```

```
kubectl exec -it my-kubernetes-dashboard ls /var/run/secrets/kubernetes.io/serviceaccount
ca.crt   namespace   token
```

```
kubectl exec -it my-kubernetes-dashboard cat /var/run/secrets/kubernetes.io/serviceaccount/token
```

eyJhbGciOiJSUzI1NiIsImtpZCI6IiJ9.eyJpc3MiOiJrdWJlcm5ldGVzL3NlcnZpY2VhY2NvdW50Iiwia3ViZXJuZXRlcy5pby9zZXJ2aWNlYWNjb3V
udC9uYW1lc3BhY2UiOiJkZWZhdWx0Iiwia3ViZXJuZXRlcy5pby9zZXJ2aWNlYWNjb3VudC9zZWNyZXQubmFtZSI6ImRlZmF1bHQtdG9rZW4tajRoa3Y
iLCJrdWJlcm5ldGVzLmlvL3NlcnZpY2VhY2NvdW50L3NlcnZpY2UtYWNjb3VudC5uYW1lIjoiZGVmYXVsdCIsImt1YmVybmV0ZXMuaW8vc2VydmljZWF
jY291bnQvc2VydmljZS1hY2NvdW50LnVpZCI6IjcxGM4YWExLTU2MGMtMTFlOC04YmI0LTA4MDAyNzkzMTA3MiIsInN1YiI6InN5c3RlbTpzZXJ2aWN

```
pod-definition.yml
apiVersion: v1
kind: Pod
metadata:
  name: my-kubernetes-dashboard
spec:

  containers:
    - name: my-kubernetes-dashboard
      image: my-kubernetes-dashboard

  serviceAccountName: dashboard-sa
```

```
pod-definition.yml
apiVersion: v1
kind: Pod
metadata:
  name: my-kubernetes-dashboard
spec:

  containers:
    - name: my-kubernetes-dashboard
      image: my-kubernetes-dashboard

  automountServiceAccountToken: false
```

SERVICE ACCOUNTS

1.22/1.24 Update