

Task Create User in K8S Cluster

1. Generate certificates for the user.

```
root@DESKTOP-VIDGD8F:task5# openssl genpkey -out saniya.key -algorithm Ed25519
root@DESKTOP-VIDGD8F:task5# cat saniya.key
-----BEGIN PRIVATE KEY-----
MC4CAQAwBQYDK2VwBCIEIFJJnEEpbn6CdLYqT28TSmlSsh29u1oLP01B84ajuRJZ
-----END PRIVATE KEY-----
```

2. Create a certificate signing request (CSR).

[illegible]

```
root@DESKTOP-VIDGD8F:task5# cat sania.yaml
apiVersion: certificates.k8s.io/v1
kind: CertificateSigningRequest
metadata:
  name: john
spec:
  request: LS0tLS1CRUdJTiB0RVJUSUZXJQ0FURSBSRVFVRVNUbS0tLS0KU0tLH0ZGUUbuUUF3SVRFU1BNEdbMVVFXd3SGMyRnVhVWxoTERFRkt1Bc0dBmVHVqQ2d3RVpUUnkBRkFkTUFVRwpBeXRsY0FNAEJFZ05zZ2h0K05kcm10NCtmtjlxTet0d0vaeJwUhpPZlZjZ3BQMC9ESUdq0bF0d0RURCMLTz3CkcewRUeWMDbTj1TWkdsbHJpZHRFR2JWk3LHtXJlQ2d0YzVjdXN5S2E1N2MwctLnbiVnanU5M3pKVUHXTjFtMg0bKN0h1TU0zRmlkZkZjM0pwpV3d1UTBx0DZWQWl9PQotLS1CRUdJTiB0RVJUSUZXJQ0FURSBSRVFVRVNUbS0tLS0K
  signerName: kubernetes.io/kube-apiserver-client
expirationSeconds: 86400 # one day
usage:
  - client auth
root@DESKTOP-VIDGD8F:task5#
```

```
root@DESKTOP-VIDGD8F:task5# kubectl apply -f saniya.yaml
certificatesigningrequest.certificates.k8s.io/john created
```

3. Sign the certificate using the cluster certificate authority.

```
root@DESKTOP-VIDGD8F:task5# kubectl certificate approve saniya
certificatesigningrequest.certificates.k8s.io/saniya approved
```

```
root@DESKTOP-VIDGD8F:task5# kubectl get csr/saniya -o jsonpath="{.status.certificate}" | base64 -d > saniya.crt
root@DESKTOP-VIDGD8F:task5# ll
total 8
drwxrwxrwx 1 saniya saniya 512 Feb 29 12:33 .
drwxrwxrwx 1 saniya saniya 512 Feb 29 11:44 ..
-rwxrwxrwx 1 saniya saniya 769 Feb 29 12:33 saniya.crt
-rwxrwxrwx 1 saniya saniya 294 Feb 29 12:31 saniya.csr
-rwxrwxrwx 1 saniya saniya 119 Feb 29 12:30 saniya.key
-rwxrwxrwx 1 saniya saniya 614 Feb 29 12:32 saniya.vaml
```

4. Create a configuration specific to the user.

```
root@DESKTOP-VIDG08F:task5# kubectl --kubeconfig saniya-kube-config config set-credentials saniya --client-key saniya.key --client-certificate s
aniya.csr --embed-certs=true
User "saniya" set.
```

```
root@DESKTOP-VIDGD8F:task5# kubectl --kubeconfig saniya-kube-config config set-context saniya --cluster default --user saniya
Context "saniya" created.
```

```

root@DESKTOP-VIDGD8F:task5# ll
total 12
drwxrwxrwx 1 saniya saniya 512 Feb 29 12:35 .
drwxrwxrwx 1 saniya saniya 512 Feb 29 11:44 ..
-rwxrwxrwx 1 saniya saniya 787 Feb 29 12:35 saniya-kube-config
-rwxrwxrwx 1 saniya saniya 769 Feb 29 12:33 saniya.crt
-rwxrwxrwx 1 saniya saniya 294 Feb 29 12:31 saniya.csr
-rwxrwxrwx 1 saniya saniya 119 Feb 29 12:30 saniya.key
-rwxrwxrwx 1 saniya saniya 614 Feb 29 12:32 saniya.yaml

```

```

root@DESKTOP-VIDGD8F:task5# realpath saniya-kube-config
/mnt/c/Users/ADMIN/Desktop/My_Notes/KUBERNETES/k8sCluster_kubeadm_terraform/task/task5/saniya-kube-config
root@DESKTOP-VIDGD8F:task5# cp /mnt/c/Users/ADMIN/Desktop/My_Notes/KUBERNETES/k8sCluster_kubeadm_terraform/exotic-mongrel.conf saniya-kube-config

```

5. Add RBAC rules for the user or their group.

```

root@DESKTOP-VIDGD8F:task5# kubectl create role pod-manager --verb=create,list,get --resource=pods --namespace=default
role.rbac.authorization.k8s.io/pod-manager created

```

```

root@DESKTOP-VIDGD8F:task5# kubectl create clusterrolebinding saniya-pod-manager --clusterrole=pod-manager --user=saniya
clusterrolebinding.rbac.authorization.k8s.io/saniya-pod-manager created

```

```

root@DESKTOP-VIDGD8F:task5# kubectl create clusterrole pod-manager --verb=get --resource=pods
clusterrole.rbac.authorization.k8s.io/pod-manager created

```

```

root@DESKTOP-VIDGD8F:task5# kubectl auth can-i create deployments --namespace=default --as=saniya
no
root@DESKTOP-VIDGD8F:task5# kubectl auth can-i create secrets --namespace=default --as=saniya
no
root@DESKTOP-VIDGD8F:task5# kubectl auth can-i get pods --namespace=default --as=saniya
yes

```

```

root@DESKTOP-VIDGD8F:task5# ll
total 16
drwxrwxrwx 1 saniya saniya 512 Feb 29 12:35 .
drwxrwxrwx 1 saniya saniya 512 Feb 29 11:44 ..
-rwxrwxrwx 1 saniya saniya 5650 Feb 29 12:35 saniya-kube-config
-rwxrwxrwx 1 saniya saniya 769 Feb 29 12:33 saniya.crt
-rwxrwxrwx 1 saniya saniya 294 Feb 29 12:31 saniya.csr
-rwxrwxrwx 1 saniya saniya 119 Feb 29 12:30 saniya.key
-rwxrwxrwx 1 saniya saniya 614 Feb 29 12:32 saniya.yaml
root@DESKTOP-VIDGD8F:task5# realpath saniya-kube-config
/mnt/c/Users/ADMIN/Desktop/My_Notes/KUBERNETES/k8sCluster_kubeadm_terraform/task/task5/saniya-kube-config
root@DESKTOP-VIDGD8F:task5# export KUBECONFIG=/mnt/c/Users/ADMIN/Desktop/My_Notes/KUBERNETES/k8sCluster_kubeadm_terraform/task/task5/saniya-kube-config

```

```

root@DESKTOP-VIDGD8F:task5# kgn

```

NAME	STATUS	ROLES	AGE	VERSION
master	Ready	control-plane	59m	v1.28.2
worker-0	Ready	<none>	59m	v1.28.2
worker-1	Ready	<none>	59m	v1.28.2