Services

» Cluster IP

Overview

Use `oc explain` to see available keys/fields for a service manifest.

```
oc explain service --recursive=true
oc explain service.spec.ports --recursive=true
```

Expose the `myfirstreplicaset` ReplicaSet to the cluster with a ClusterIP service.

Create the ClusterIP Service object manifest.

```
cat > service-clusterip.yaml <<EOF
kind: Service
apiVersion: v1
metadata:
  name: myfirstservice
  namespace: myproject
spec:
  type: ClusterIP
  selector:
    app: myfirstapp
  ports:
  - protocol: TCP
    port: 8080
    targetPort: 80
EOF
```

Create the ClusterIP Service.

```
oc create -f service-clusterip.yaml
```

You could have also used the `kubectl expose` command to create the service.

```
# oc expose replicaset myfirstreplicaset --name=myfirstservice --port 8080 --target-port 80
```

Confirm the ClusterIP service was successfully created.

```
oc get svc
```

Creating a service automatically generates an Endpoints object that manages pod IP addresses.

```
oc get endpoints
```

View the manifest for the Service resource.

```
oc get svc myfirstservice -o yaml
```

Fetch the ClusterIP IP address.

```
CLUSTERIP=`oc get svc myfirstservice -o jsonpath='{.spec.clusterIP}'`
```

Run a separate pod to verify the ClusterIP is accessible in the cluster.

```
oc run --image=busybox busybox --restart=Never -- sleep 6000


oc exec -it busybox -- wget -qO - http://$CLUSTERIP:8080
```

Service Environment Variables

All services are advertised as variables within the Pod. The downside to variables is that they do not automatically update when new services are created. You must restart the pod to see new variables.

```
oc exec -it busybox -- env
```

Connecting to a ClusterIP Service

Verify that the service can be accessed using the IP address specified in the environment variable.

```
oc exec -it busybox -- /bin/sh
wget -qO - http://$MYFIRSTSERVICE_SERVICE_HOST:$MYFIRSTSERVICE_SERVICE_PORT
```

DNS - ClusterIP

Verify that the service can be accessed with a hostname using DNS.

```
cat /etc/resolv.conf
```

Verify that the service can be accessed using the IP address specified in the environment variable.

```
wget -qO - myfirstservice:8080
```

You can also use the FQDN for the service

```
wget -qO - myfirstservice.myproject.svc.cluster.local:8080
```

Exit out of the pod

```
exit
```

Clean Up

Let’s delete the ClusterIP service

```
oc delete svc myfirstservice
```

Delete the replicaset

```
oc delete replicaset myfirstreplicaset
```