Lab - Use CLI and Tools

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Overview

In this lab exercise, you use the Kubernetes CLI, the IBM Cloud Private CLI, and other useful tools.

Configure kubectl to connect to your ICP Cluster

The Kubernetes CLI `kubectl` has been installed for you. Use the following commands to connect it to your cluster.

1. If you are not already logged in to the ICP Admin Console from a previous exercise, on your BOOT VM open a browser and navigate to `https://10.10.1.2/8443`. Log in by using `username: admin` and `password: admin`.
2. Click the User icon on the navigation bar, and then select Configure Client to display the commands that are used to configure a kubectl command line to connect to this ICP Cluster.

3. When the Configure client dialog displays, click the copy commands icon as shown below:

4. Open a terminal window on the BOOT VM and paste in the commands. The output is similar to that shown below:

```
# kubectl config set-cluster cluster.local --server=https://9.37.138.189:8001 --
insecure-skip-tls-verify=true
Cluster "cluster.local" set.

# kubectl config set-context cluster.local-context --cluster=cluster.local
Context "cluster.local-context" created.

# kubectl config set-credentials admin --token=...
User "admin" set.

# kubectl config set-context cluster.local-context --user=admin --
namespace=default
Context "cluster.local-context" modified.

# kubectl config use-context cluster.local-context
Switched to context "cluster.local-context".
```

5. Issue the following command to get information about your ICP Cluster: `kubectl cluster-info`

```
# kubectl cluster-info
Kubernetes master is running at https://9.37.138.189:8001
catalog-ui is running at https://9.37.138.189:8001/api/v1/namespaces/kube-
```

```
system/services/catalog-ui:catalog-ui/proxy
Heapster is running at https://9.37.138.189:8001/api/v1/namespaces/kube-
system/services/heapster/proxy
image-manager is running at https://9.37.138.189:8001/api/v1/namespaces/kube-
system/services/image-manager:image-manager/proxy
KubeDNS is running at https://9.37.138.189:8001/api/v1/namespaces/kube-
system/services/kube-dns:dns/proxy
metrics-server is running at https://9.37.138.189:8001/api/v1/namespaces/kube-
system/services/https:metrics-server:/proxy
platform-ui is running at https://9.37.138.189:8001/api/v1/namespaces/kube-
system/services/platform-ui:platform-ui/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
```

The Kubernetes CLI is now configured and is used later in the workshop.

Use cloudctl to configure your environment

The IBM Cloud CLI `cloudctl` will configure kubectl without needing access to the ICP UI to collect the `kubectl config` parameters.

1. In a new terminal window the terminal window, run the following command to login into your ICP Cluster:

```
cloudctl login -a https://10.10.1.2:8443
```

2. Enter `username: admin` and `password: admin` when prompted, and select the `default namespace` as shown below.

```
root@master:~# cloudctl login -a https://10.10.1.2:8443

Username> admin

Password>
Authenticating...
OK

Targeted account mycluster Account (id-mycluster-account)

Select a namespace:
1. cert-manager
2. default
3. istio-system
4. jenkins
5. kube-public
6. kube-system
7. platform
8. services
Enter a number> 2
Targeted namespace default

Configuring kubectl ...
Property "clusters.mycluster" unset.
Property "users.mycluster-user" unset.
Property "contexts.mycluster-context" unset.
Cluster "mycluster" set.
User "mycluster-user" set.
```

```
Context "mycluster-context" created.
Switched to context "mycluster-context".
OK

Configuring helm: /root/.helm
OK
```

Configure the Helm CLI

The Helm CLI has been installed for you. It has been configured by cloudctl in the previous section to connect to your ICP Cluster.

1. Run the following command to initialize the Helm CLI:

```
helm init -c
```

The results of the commands are shown below.

```
# helm init -c
Creating /root/.helm/repository
Creating /root/.helm/repository/cache
Creating /root/.helm/repository/local
Creating /root/.helm/plugins
Creating /root/.helm/starters
Creating /root/.helm/cache/archive
Creating /root/.helm/repository/repositories.yaml
Adding stable repo with URL: https://kubernetes-charts.storage.googleapis.com
Adding local repo with URL: http://127.0.0.1:8879/charts
$HELM_HOME has been configured at /root/.helm.
Not installing Tiller due to 'client-only' flag having been set
Happy Helming!
```

2. Run the following command to list the configured Helm repositories:

```
helm repo list
```

The results of the commands are shown below

```
# helm repo list
NAME    URL
stable  https://kubernetes-charts.storage.googleapis.com
local   http://127.0.0.1:8879/charts
```

3. Run the following command to list the currently installed Helm releases:

```
helm list --tls
```

The Helm CLI is now configured, and is used later in the workshop.

End of Lab Review

In this lab exercise, you installed and configured some of the command line tools that can be used with IBM Cloud Private:

- Installed kubectl and configured it for use with your ICP Cluster
- Installed the IBM Cloud CLI
- Installed the Helm CLI

End of Lab Exercise