Cloudera Flow Management Operator for Kubernetes 3.4.1

NiFi Registry Deployment

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NiFi Registry installation artifacts

Learn about installing NiFi registry with the Cloudera Flow Management Operator for Kubernetes, the installation artifacts, and where these artifacts are hosted.

Installation artifacts and artifact locations

Cloudera Flow Management Operator for Kubernetes comes with various installation artifacts. These artifacts are hosted at two locations, the Cloudera Docker registry and the Cloudera Archive.

Both the Cloudera Docker registry and the Cloudera Archive require Cloudera credentials (username and password) for access. These credentials are provided to you as part of your license and subscription agreement and can be used to access both the registry and the archive.

Artifact	Location
Apache NiFi Registry Docker images	https://container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8s:nifi_1.28.1.2.3.17.0-9
	https://container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8s:3.1.0-b129-nifi_2.6.0.4.12.0.1-9

Deploying a NiFi Registry instance (internet)

Learn about deploying a NiFi Registry cluster using Cloudera Flow Management Operator for Kubernetes.

About this task

You can deploy a NiFi Registry cluster by creating a NiFi Registry custom resource (CR) and deploying in a Kubernetes cluster.

Before you begin

- Ensure the Cloudera Flow Management Operator for Kubernetes has been installed and is running.
- You have created a NiFi Registry custom resource (CR) YAML file that complies with the documentation provided by Cloudera.

Procedure

1. Create a namespace for the NiFi Registry if it does not already exist.

```
$ kubectl create namespace my-nifi-registry
```

2. In *[***REGISTRY CLUSTER NAMESPACE***]*, create an image pull secret to access the installation artifacts.

```
kubectl create secret docker-registry [***SECRET NAME***] \
  --namespace [***REGISTRY CLUSTER NAMESPACE***] \
  --docker-server container.repository.cloudera.com \
  --docker-username [***USERNAME***] \
  --docker-password [***PASSWORD***]
```

Replace:

- *[***SECRET NAME***]* with the desired Kubernetes secret name.
- *[***REGISTRY CLUSTER NAMESPACE***]* with the namespace you created.
- *[***USERNAME***]* and *[***PASSWORD***]* with your Cloudera credentials.

For example:

```
kubectl create secret docker-registry docker-pull-secret \
  --namespace cfm-operator-system \
  --docker-server container.repository.cloudera.com \
  --docker-username my-username \
  --docker-password my-password
```

3. Deploy NiFi Registry to the Kubernetes cluster.

```
kubectl apply -f [***CR YAML PATH***] --namespace [***REGISTRY CLUSTER
 NAMESPACE***]
```

Replace:

- *[***CR YAML PATH***]* with the absolute or relative path to the CR YAML file you created for NiFi Registry.
- *[***REGISTRY CLUSTER NAMESPACE***]* with the namespace you created to deploy NiFi Registry.

Related Information

Configuring a NiFi Registry CR
NiFi Registry CR example

Deploying a NiFi Registry instance in an air-gapped environment

Learn about deploying a NiFi Registry cluster using Cloudera Flow Management Operator for Kubernetes. Complete these steps if your Kubernetes cluster does not have internet access, or if you want to install it from a self-hosted registry.

About this task

You can deploy a NiFi Registry cluster by creating a NiFi Registry custom resource (CR) and deploying on Kubernetes.

Before you begin

- Ensure the Cloudera Flow Management Operator for Kubernetes has been installed and is running.
- A self-hosted Docker registry is required. Your registry must be accessible by your Kubernetes cluster.
- A machine with Internet connectivity is required. While the Kubernetes cluster does not need internet access, you will need a machine to pull the images from the Cloudera Docker registry.
- Access to docker or equivalent utility that you can use to pull and push images is required. The following steps use docker. Replace commands where necessary.
- Ensure that you have access to your Cloudera credentials (username and password). Credentials are required to access the Cloudera Archive and Cloudera Docker registry where installation artifacts are hosted.
- Ensure that you have access to a valid Cloudera license.
- Review the Helm chart reference before installation.

  The Helm chart accepts various configuration properties that you can set during installation. Using these properties you can customize your installation.
- You have created a NiFi Registry custom resource (CR) YAML file that complies with the documentation provided by Cloudera.
- Obtain the Apache NiFi Registry Docker image that is required for your installation scenario.

Artifact	Location
Apache NiFi Registry Docker images	container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8s:1.28.1.2.3.17.0-9
	container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8s:2.6.0.4.12.0.1-9

Procedure

1. Create a namespace for the NiFi Registry if it does not already exist.

```
kubectl create namespace [***REGISTRY CLUSTER NAMESPACE***]
```

Replace *[***REGISTRY CLUSTER NAMESPACE***]* with the desired namespace for NiFi Registry.

```
$ kubectl create namespace my-nifi-registry
```

2. Create a Kubernetes secret containing your Cloudera credentials.

```
kubectl create secret docker-registry [***SECRET NAME***] \
  --namespace [***REGISTRY CLUSTER NAMESPACE***] \
  --docker-server [***CONTAINER REGISTRY***] \
  --docker-username [***USERNAME***] \
  --docker-password [***PASSWORD***]
```

Replace:

- *[***SECRET NAME***]* with the desired Kubernetes secret name.
- *[***USERNAME***]* and *[***PASSWORD***]* with your internal registry credentials.
- *[***REGISTRY CLUSTER NAMESPACE***]* with the Cloudera Flow Management Operator for Kubernetes installation namespace.
- *[***CONTAINER REGISTRY***]* with your internal registry URL.

3. Move the installation artifacts to a local registry using the `docker pull`, `docker tag`, and `docker push` commands.

```
docker pull container.repository.cloudera.com/cloudera/cfm-nifiregistry-
k8s:[***NIFI REGISTRY VERSION***] \
docker tag container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8
s:[***NIFI REGISTRY VERSION***] [***PRIVATE REGISTRY[:PORT]/PATH/TAG:NIFI
 REGISTRY VERSION***] \
docker push [***PATH TO SELF-HOSTED REGISTRY***]/cfm-nifiregistry-k8
s:[***NIFI REGISTRY VERSION***]
```

For example:

```
docker pull container.repository.cloudera.com/cloudera/cfm-nifiregistry-
k8s:1.28.1.2.3.17.0-9 \
docker tag container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8
s:1.28.1.2.3.17.0-9 us-central1-docker.pkg.dev/nifi-testing/cfm-k8s/cfm-
nifiregistry-k8s:1.28.1.2.3.17.0-9 \
docker push us-central1-docker.pkg.dev/nifi-testing/cfm-k8s/cfm-nifiregis
try-k8s:1.28.1.2.3.17.0-9
```

Note:

If Kubernetes is running on a different architecture than your local machine, you may need to specify a --platform option for your docker pull.

For more information on pulling, pushing, and tagging Docker images, see the Docker documentation.

4. Deploy NiFi Registry to the Kubernetes cluster.

```
kubectl apply -f [***CR YAML PATH***] --namespace [***REGISTRY CLUSTER
 NAMESPACE***]
```

Replace:

- *[***CR YAML PATH***]* with the absolute or relative path to the CR YAML file you created for NiFi Registry.
- *[***REGISTRY CLUSTER NAMESPACE***]* with the namespace you created to deploy NiFi Registry.

Related Information

Configuring a NiFi Registry CR

NiFi Registry CR example