Cloudera Flow Management - Kubernetes Operator 2.11.0

NiFi Registry Deployment

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Contents

Deploying a NiFi Registry instance (internet)

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

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 - Kubernetes Operator 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 - Kubernetes Operator. 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 - Kubernetes Operator 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:2.11.0-b57-nifi_1.28.1.2.3.16.0-10
	container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8s:2.11.0-b54-nifi_2.4.0.4.3.3.0-39

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 - Kubernetes Operator 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:2.11.0-b57-nifi_1.28.1.2.3.16.0-10 \
docker tag container.repository.cloudera.com/cloudera/cfm-nifiregistry-k8
s:2.11.0-b57-nifi_1.28.1.2.3.16.0-10 us-central1-docker.pkg.dev/nifi-tes
ting/cfm-k8s/cfm-nifiregistry-k8s:2.11.0-b57-nifi_1.28.1.2.3.16.0-10 \
docker push us-central1-docker.pkg.dev/nifi-testing/cfm-k8s/cfm-nifiregis
try-k8s:2.11.0-b57-nifi_1.28.1.2.3.16.0-10
```

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