

NiFi Deployment

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Deploying a NiFi instance in Kubernetes

With CFM Operator you can deploy NiFi clusters to your Kubernetes cluster.

About this task

You can deploy a NiFi cluster by creating a NiFi custom resource (CR) and deploying it to the Kubernetes cluster.

Before you begin

- Ensure the CFM Operator has been installed and is running.
- You have created a NiFi CR YAML file that complies with the documentation provided by Cloudera.

Procedure

1. Create the NiFi cluster namespace if it does not already exist.

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

Replace `[***NIFI CLUSTER NAMESPACE***]` with your desired namespace.

2. Create an image pull secret.

```
kubectl create secret docker-registry docker-pull-secret \
  --namespace [***CFM OPERATOR NAMESPACE***] \
  --docker-server container.repository.cloudera.com \
  --docker-username [***USERNAME***] \
  --docker-password [***PASSWORD***]
```

Replace:

- `[***USERNAME***]` and `[***PASSWORD***]` with your Cloudera credentials.
- `[***CFM OPERATOR NAMESPACE***]` with the desired operator installation namespace, typically `cfm-operator-system`.

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. Apply your NiFi CR to the Kubernetes cluster.

```
kubectl apply -f [***NIFI YAML PATH***] \
  --namespace [***NIFI CLUSTER NAMESPACE***]
```

Replace

- `[***NIFI YAML PATH***]` with the absolute or relative path to the NiFi yaml.
- `[***NIFI CLUSTER NAMESPACE***]` with your desired namespace.

Deploying a NiFi instance in Kubernetes (airgap)

With CFM Operator you can deploy NiFi clusters to your Kubernetes cluster. 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 cluster by creating a NiFi custom resource (CR) and deploying it to the Kubernetes cluster.

Before you begin

- Ensure the CFM Operator has been installed and is running.
- You have created a NiFi CR YAML file that complies with the documentation provided by Cloudera.

Procedure

1. Create a secret to access installation images.

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

2. 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-nifi-k8s:[***CFM OPERATOR NIFI VERSION***] \
docker tag container.repository.cloudera.com/cloudera/cfm-nifi-k8s:[***CFM OPERATOR NIFI VERSION***] [***PRIVATE REGISTRY[:PORT]/PATH/TAG:CFM OPERATOR NIFI VERSION***] \
docker push [***PATH TO SELF-HOSTED REGISTRY***]/cfm-nifi-k8s:[***CFM OPERATOR NIFI VERSION***]
```

For example:

```
docker pull container.repository.cloudera.com/cloudera/cfm-nifi-k8s:2.8.0-b94-nifi_1.25.0.2.3.13.0-36 \
docker tag container.repository.cloudera.com/cloudera/cfm-nifi-k8s:2.8.0-b94-nifi_1.25.0.2.3.13.0-36 us-centrall-docker.pkg.dev/nifi-testing/cfm-k8s/cfm-nifi-k8s:2.8.0-b94-nifi_1.25.0.2.3.13.0-36 \
docker push us-centrall-docker.pkg.dev/nifi-testing/cfm-k8s/cfm-nifi-k8s:2.8.0-b94-nifi_1.25.0.2.3.13.0-36
```



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.

3. Create the NiFi cluster namespace if it does not already exist.

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

Replace `[***NIFI CLUSTER NAMESPACE***]` with your desired namespace.

4. Create an image pull secret.

```
kubectl create secret docker-registry docker-pull-secret \
  --namespace [***CFM OPERATOR NAMESPACE***] \
  --docker-server container.repository.cloudera.com \
  --docker-username [***USERNAME***] \
  --docker-password [***PASSWORD***]
```

Replace:

- [***USERNAME***] and [***PASSWORD***] with your Cloudera credentials.
- [***CFM OPERATOR NAMESPACE***] with the desired operator installation namespace, typically cfm-operator-system.

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
```

5. Apply your NiFi CR to the Kubernetes cluster.

```
kubectl apply -f [***NIFI YAML PATH***] \
  --namespace [***NIFI CLUSTER NAMESPACE***]
```

Replace

- [***NIFI YAML PATH***] with the absolute or relative path to the NiFi yaml.
- [***NIFI CLUSTER NAMESPACE***] with your desired namespace.

Enabling edit access with LDAP authentication

If you configured LDAP authentication for your NiFi cluster, you need to perform additional configuration to enable access to the canvas for the admin user.

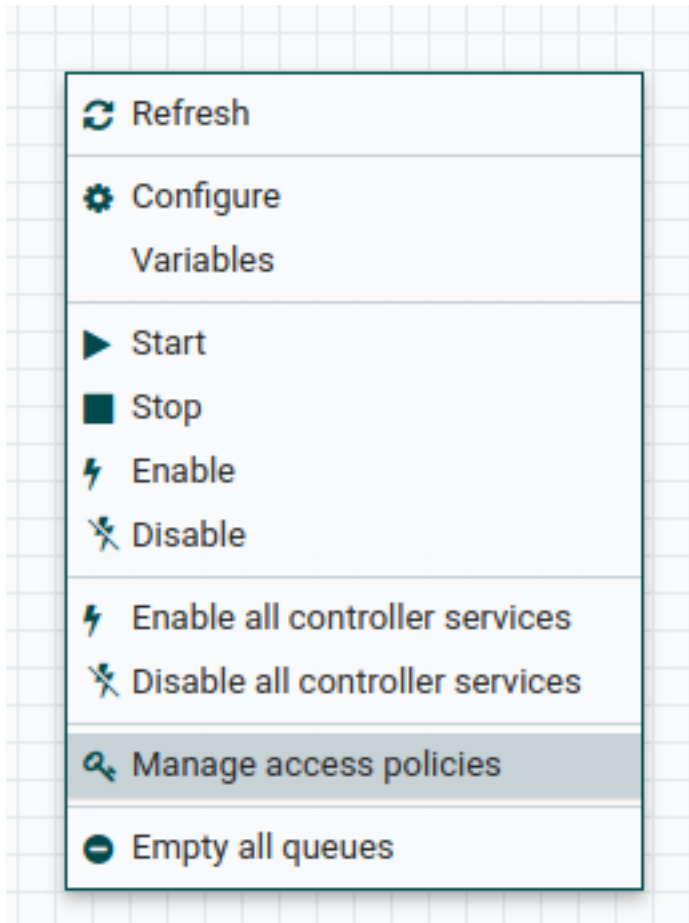
About this task

On initial deployment with LDAP user authentication, the specified initial admin identity does not have permissions to edit the canvas, resulting in grayed-out Flow controls. You can configure access from the NiFi web UI.

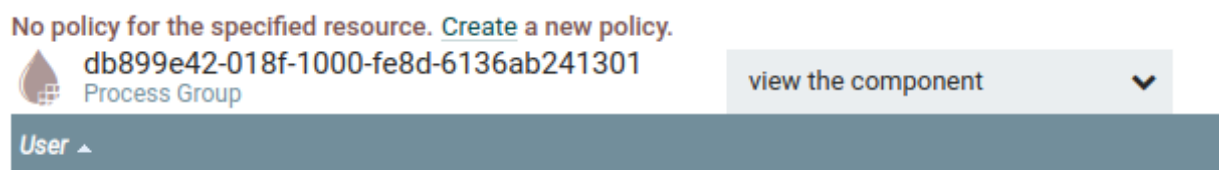
Procedure

1. Access the NiFi UI by navigating to `https://[***NIFI HOST***]:[***NIFI PORT***]/nifi` in a web browser. The default [***NIFI PORT***] is 8443.
2. Log in using the admin user credentials.

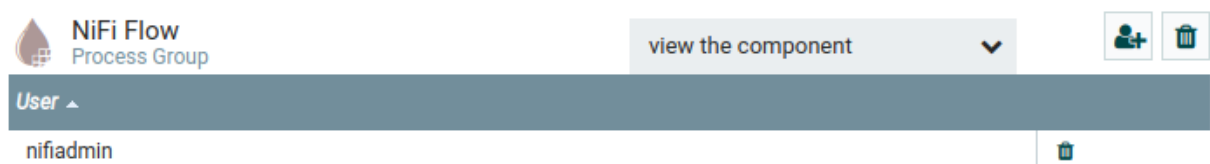
- Grant the admin user edit permission by right-clicking on the canvas and selecting Manage access policies.



In the access policy view for the Flow/Root Process Group, you see that there is no policy currently defined:



- Click Create to make the Add User button available for the policy, allowing you to add the admin user.



5. Repeat the same process for each of the items in the dropdown list.