

Cloudera Flow Management 2.1.6

## Managing NiFi in Cloudera Manager

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# CLouDERA

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## Using the Actions menu

You can manage the NiFi service in Cloudera Manager on CDP Private Cloud Base using the Actions menu available on the service page. This menu provides a list of commands relevant to the role type you are viewing. These commands typically include stopping, starting, or restarting the instance, and may include additional commands depending on your role.

### About this task

Follow these steps to access the Actions menu.

### Procedure

1. From Cloudera Manager, click the Clusters tab in the left-hand navigation.
2. Click NiFi in the list of services to display the NiFi service page.
3. Click the Actions drop-down next to the service name.

The following commands are available:

#### Start

This action starts the NiFi service.

#### Restart

This action runs two other actions, 'Stop NiFi' and 'Start NiFi', one after another.

#### Rolling Restart

This action consists of three actions, and it runs a specific restart of the NiFi service. The Rolling restart action first runs 'Stop NiFi', then it runs 'Start NiFi', and finally it runs 'NifiNodeWaitUntilHealthy'. The goal of the last action is to wait until the NiFi service is started and works correctly. It is needed in the rolling restart because the 'Start NiFi' action just runs the start NiFi service command and does not wait until the NiFi service actually starts and also does not check if the service works correctly.

#### Migrate File-based Authorizations to Ranger

This action migrates policies from authorizations.xml to Ranger. For more information, see *Migrating NiFi File-Based authorization to Ranger*.

#### Create required NiFi objects

This action calls the CreateRequiredNiFiObjects.sh script, which is used to create NiFi objects like: ReportLineageToAtlas, StandardRestrictedSSLContextService, or MonitorDiskUsage. This script also adds component policies to Ranger, which are described in the ranger-component-policies.xml file. The action is automatically executed after the first NiFi start. If needed, you can rerun it later manually.

#### Remove Ranger repository

This action removes the related NiFi repository/service from Ranger.



**Important:** Use this action with caution as it causes NiFi to fail. If you ran the command accidentally, 1. stop NiFi, 2. create a marker file, and 3. start NiFi again. After completing these actions, Ranger NiFi repository/service, all related policies, and all NiFi objects will be created/added.

#### Reset File-based Authorizer Users and Policies

This action automatically removes the users.xml and authorizations.xml configuration files on each host with NiFi. It also creates backups of these two configurations in the same directory, but with

the file names changed (users.xml{current-date}, authorizations.xml{current-date}). This action helps you to regenerate users.xml and authorizations.xml config files on all NiFi hosts.

#### Create Marker File

This action creates the /var/lib/nifi/marker.txt file on a random NiFi host. You need this file to understand exactly which NiFi instance should create a NiFi Ranger repository/service and basic policies during the NiFi start. Without this file, Ranger repository/service is not created and NiFi service fails. The action runs before 'Start NiFi' only during the first NiFi start (after installation).

#### Create First Run File

This action creates the /var/lib/nifi/first\_run.txt file on all NiFi hosts. You can use this file to check whether it is the first start of NiFi. For example during the NiFi start process (controller.sh), it is checked that it is not the first start of NiFi and groups are updated for some policies in the NiFi Ranger repository/service, if needed. After the /var/lib/nifi/first\_run.txt file is created, it is removed automatically.

#### Run Post Upgrade Changes

This action runs the run\_post\_upgrade\_changes.sh script. This script adds the required changes for a new CFM version after an upgrade. It also automatically runs during the first run after an upgrade, if the CFM version has changed.



**Important:** Do not execute this action manually, only in specific cases when you need to fix things in the scope of run\_post\_upgrade\_changes.sh.

#### Wait until the NiFi Node is healthy

This action runs the 'nifi\_wait\_until\_healthy' script, and the system waits until the NiFi service is started and works correctly.

#### Stop

This action stops the NiFi service.

#### Related Information

[Migrating NiFi File-Based authorization to Ranger](#)

## Managing NiFi nodes

Cloudera Manager helps you to handle NiFi clusters within the CDP Private Cloud Base environment. It simplifies the process of adding and removing NiFi nodes, providing a centralized and real-time view of the instances across your cluster. Through the Admin Console, you have access to a single, unified platform to facilitate configuration changes and streamline cluster management.

### Adding a NiFi node

Follow these steps to add a NiFi node to your cluster.

#### About this task

The new NiFi node(s) will be added to your cluster. You should now be able to use the new instance seamlessly.

#### Procedure

1. Go to your cluster's homepage on the Cloudera Manager UI.
2. Open the NiFi service page by clicking NiFi in the list of services.
3. Click Instances.

4. Click **Add Role Instance** to initiate the process of adding a NiFi node.  
The **Assign Roles** page is displayed.
5. Assign the NiFi roles to the relevant hosts and click **Continue** to proceed.  
The **Review Change** page is displayed allowing you to verify the configurations and assignments.
6. If needed, update the NiFi properties according to your specific requirements.
7. Click **Finish** to finalize the configuration process.
8. Click **Actions Restart** to restart the cluster.

### Results

The new NiFi node(s) will be added to your cluster. You should now be able to use the new instance seamlessly.

## Removing a NiFi node

Follow these steps to remove a NiFi node from your cluster.

### About this task

After successful completion, the NiFi node will be removed from your cluster, and everything should continue to function correctly without the instance you removed.

### Procedure

1. Go to your cluster's homepage on the Cloudera Manager UI.
2. Open the NiFi service page by clicking **NiFi** in the list of services.
3. Click **Instances**.
4. Select the NiFi Roles associated with the node you wish to remove.
5. Click **Actions** for selected **Decommission** to initiate the decommissioning process.
6. Once decommissioning is successfully completed, click **Actions** for selected once more and select **Delete** to remove the decommissioned roles.
7. Click **Actions Restart** to restart the cluster.

### Results

After successful completion, the NiFi node will be removed from your cluster, and everything should continue to function correctly without the instance you removed.

## Property enhancements

You can use the Cloudera Manager Safety Valves feature to extend CFM components beyond the default properties exposed in Cloudera Manager. The following sections describe how to configure different types of property files generated and used by NiFi and NiFi Registry.

### XML property enhancements

In order to configure xml property files, dot notation is leveraged in order to represent the actual schema for a given property file. This allows users to enhance or overwrite xml based properties in Cloudera Manager using. The structure for naming is as follows:

```
xml.<properties-type>.<entity>.<identifier>.class
```

```
xml.<properties-type>.<entity>.<identifier>.property.<property-value>
```

Supported properties types for NiFi are authorizers (authorizers.xml) and loginIdentityProviders (used in login-identity-providers.xml). For NiFi Registry supported types are authorizers and identityProviders.

The below property key/value example creates a user group provider entry into the authorizers file for NiFi:

```
Name: xml.authorizers.userGroupProvider.file-user-group-provider.class
Value: org.apache.nifi.authorization.FileUserGroupProvider

Name: xml.authorizers.userGroupProvider.file-user-group-provider.property
.Initial User Identity 2
Value: CN=localhost, OU=NIFI
```

This translates to the following entry in the generated authorizers.xml file:

```
<authorizers>
.....
  <userGroupProvider>
    <identifier>file-user-group-provider</identifier>
    <class>org.apache.nifi.authorization.FileUserGroupProvider</class>
    <property name="Initial User Identity 2">CN=localhost, OU=NIFI</prop
erty>
  </userGroupProvider>
...
...
</authorizers>
```

Properties names that have spaces are supported and do not need to be escaped.

## Bootstrap and Properties file enhancements

Both Bootstrap and Properties files can be enhanced using their respective safety valves (which are used to generate those respective files). The key and value can be entered using the property editor or as hadoop property styled XML.

Below is an example of Safety Valve enhancements for nifi.properties, which decreases default flow election wait time:

NiFi Node Advanced Configuration Snippet (Safety Valve) for staging/nifi.properties.xml

NiFi Node Default Group

Name: nifi.cluster.flow.election.max.wait.time

Value: 1 min

Description: Description

Final

Show All Descriptions

View as XML

When entering safety valves be aware that if a property shares the same name as one already defined in CM it will override that value.

The NiFi Section for default values can be overridden using safety valves. These can be pasted in as needed using the View as XML link for nifi.properties.xml safety valve. See the *NiFi Documentation* for available property values and usages.

The NiFi Registry section for default values can be overridden using safety valves. These can be pasted in as needed using the View as XML link for nifi.registry.properties.xml safety valve. See the *NiFi Registry Documentation* for available property values.