

## NiFi 1 to NiFi 2 migration precheck

Date published: 2019-06-26

Date modified: 2026-03-31



# Legal Notice

© Cloudera Inc. 2026. All rights reserved.

The documentation is and contains Cloudera proprietary information protected by copyright and other intellectual property rights. No license under copyright or any other intellectual property right is granted herein.

Unless otherwise noted, scripts and sample code are licensed under the Apache License, Version 2.0.

Copyright information for Cloudera software may be found within the documentation accompanying each component in a particular release.

Cloudera software includes software from various open source or other third party projects, and may be released under the Apache Software License 2.0 (“ASLv2”), the Affero General Public License version 3 (AGPLv3), or other license terms. Other software included may be released under the terms of alternative open source licenses. Please review the license and notice files accompanying the software for additional licensing information.

Please visit the Cloudera software product page for more information on Cloudera software. For more information on Cloudera support services, please visit either the Support or Sales page. Feel free to contact us directly to discuss your specific needs.

Cloudera reserves the right to change any products at any time, and without notice. Cloudera assumes no responsibility nor liability arising from the use of products, except as expressly agreed to in writing by Cloudera.

Cloudera, Cloudera Altus, HUE, Impala, Cloudera Impala, and other Cloudera marks are registered or unregistered trademarks in the United States and other countries. All other trademarks are the property of their respective owners.

Disclaimer: EXCEPT AS EXPRESSLY PROVIDED IN A WRITTEN AGREEMENT WITH CLOUDERA, CLOUDERA DOES NOT MAKE NOR GIVE ANY REPRESENTATION, WARRANTY, NOR COVENANT OF ANY KIND, WHETHER EXPRESS OR IMPLIED, IN CONNECTION WITH CLOUDERA TECHNOLOGY OR RELATED SUPPORT PROVIDED IN CONNECTION THEREWITH. CLOUDERA DOES NOT WARRANT THAT CLOUDERA PRODUCTS NOR SOFTWARE WILL OPERATE UNINTERRUPTED NOR THAT IT WILL BE FREE FROM DEFECTS NOR ERRORS, THAT IT WILL PROTECT YOUR DATA FROM LOSS, CORRUPTION NOR UNAVAILABILITY, NOR THAT IT WILL MEET ALL OF CUSTOMER’S BUSINESS REQUIREMENTS. WITHOUT LIMITING THE FOREGOING, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CLOUDERA EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, QUALITY, NON-INFRINGEMENT, TITLE, AND FITNESS FOR A PARTICULAR PURPOSE AND ANY REPRESENTATION, WARRANTY, OR COVENANT BASED ON COURSE OF DEALING OR USAGE IN TRADE.

# Contents

<b>Running a NiFi 1 to NiFi 2 migration precheck in Cloudera Manager.....</b>	<b>4</b>
<b>Running a manual migration precheck for NiFi managed by Cloudera Manager.....</b>	<b>8</b>
<b>Migration precheck for standalone NiFi.....</b>	<b>9</b>

# Running a NiFi 1 to NiFi 2 migration precheck in Cloudera Manager

When preparing to migrate from Cloudera Flow Management 2.1.7 (NiFi 1–based) to Cloudera Flow Management 4.x (NiFi 2–based), you can run the NiFi migration precheck in Cloudera Manager. The precheck helps identify potential issues before the transition to NiFi 2 by highlighting the required preparation steps and flagging breaking changes that cannot be automatically handled by the Cloudera Flow Management Migration Tool. Follow the below steps to run the migration precheck from Cloudera Manager.

## About this task

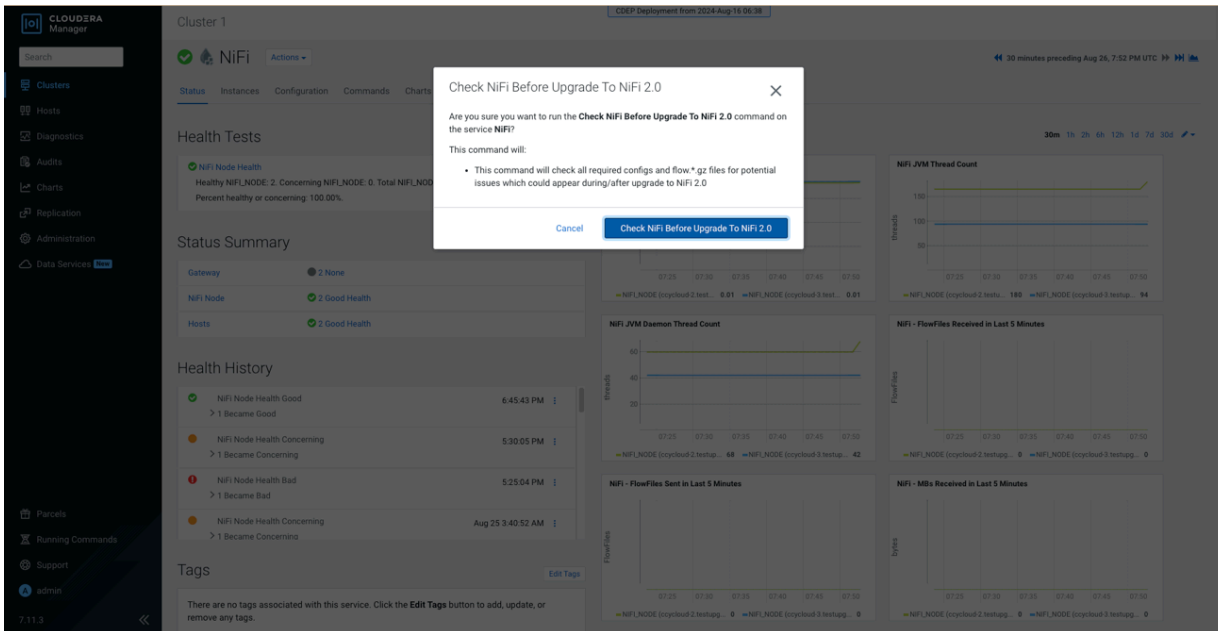
This task must be performed in Cloudera Flow Management 2.1.7.

## Procedure

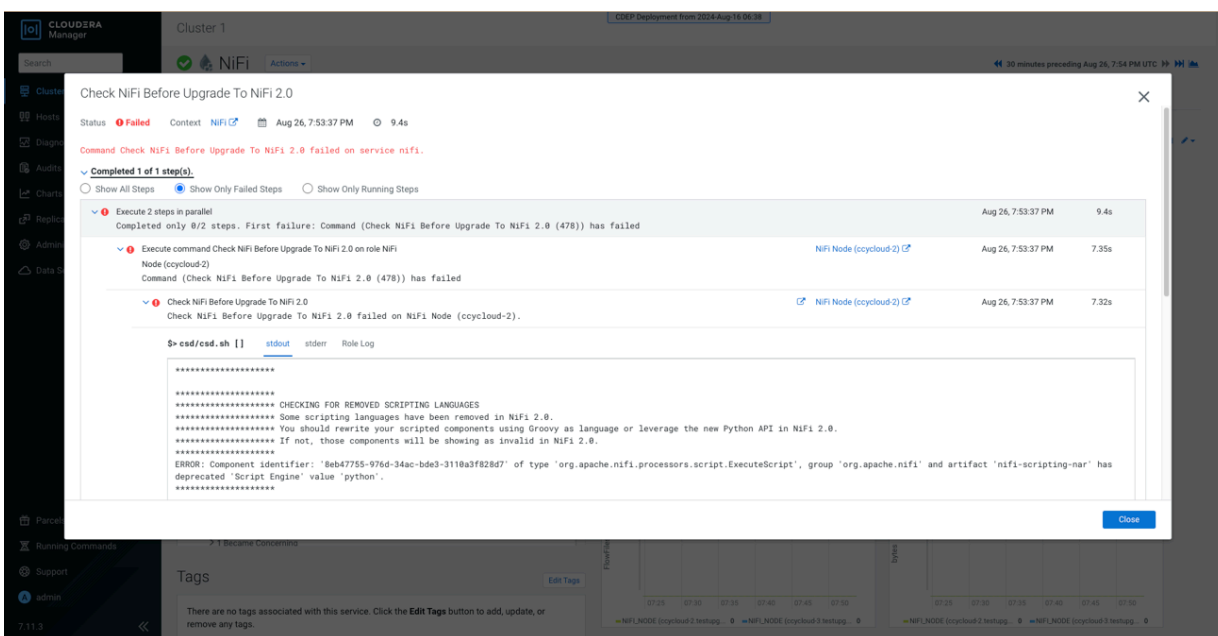
1. From Cloudera Manager, click the Clusters tab in the left-hand navigation.
2. Click NiFi in the list of services to display the NiFi service page.
3. Click the Actions drop-down next to the service name and select the Check NiFi Before Upgrade To NiFi 2.0 option.

The screenshot displays the Cloudera Manager interface for a NiFi service. On the left, a navigation sidebar shows 'Clusters' selected. The main panel shows the 'NiFi' service page for 'Cluster 1'. An 'Actions' dropdown menu is open, with the option 'Check NiFi Before Upgrade To NiFi 2.0' highlighted in orange. The background shows various service status indicators, health tests, and charts such as 'NiFi JVM File Descriptor Usage', 'NiFi JVM Thread Count', and 'NiFi - FlowFiles Received in Last 5 Minutes'.

4. Click Check NiFi Before Upgrade To NiFi 2.0 again.



The script runs across all NiFi nodes, providing a comprehensive list of items to address before migrating to NiFi 2.



5. Review this list thoroughly to ensure a smooth migration process.

**Example**

Here is an example of the output:

```
Tue Sep 24 19:37:22 UTC 2024
JAVA_HOME=/usr/java/jdk1.8.0_232-cloudera
Using -XX:OnOutOfMemoryError=/opt/cloudera/cm-agent/service/common/killpa
rent.sh as CSD_JAVA_OPTS
Using /var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgradeCheck
as conf dir
Using scripts/service-commands/pre_upgrade_check.sh as process script
```

```

CONF_DIR=/var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgrade
Check
CMF_CONF_DIR=
Script pre_upgrade_check.sh started work!
CMF_PACKAGE_DIR = /opt/cloudera/cm-agent/service
NIFI_WORKING_DIRECTORY = /var/lib/nifi
Path to csv file = /var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgradeCheck/scripts/common-scripts/resources/CFM4-Deprecated-components.csv
Path to flow.json.gz = /var/lib/nifi/flow.json.gz
Path to bootstrap.conf = /var/lib/nifi/config_backup/bootstrap.conf
Custom java home =
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Check Before Upgrade to CFM with NiFi 2.0
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
Using Python 3 or newer version (3.8.12)
Script pre_upgrade_check.py started work!
Passed arguments:
Path to json flow file = /var/lib/nifi/flow.json.gz
Path to deprecated components CSV file = /var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgradeCheck/scripts/common-scripts/resources/CFM4-Deprecated-components.csv
Path to components with kerberos properties CSV file = /var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgradeCheck/scripts/common-scripts/resources/NiFi-1.x-components-with-legacy-Kerberos-properties.csv
Path to bootstrap.conf = /var/lib/nifi/config_backup/bootstrap.conf
*****
Validating arguments:
You are running pre upgrade check before upgrade to NiFi 2.0 for NiFi managed by Cloudera Manager.
Path to flow.json.gz file is valid!
Path to deprecated components CSV file is valid!
Path to components with kerberos properties CSV file is valid!
Path to bootstrap.conf file is valid!
*****
Parsing bootstrap.conf:
*****

Reading and parsing /var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgradeCheck/scripts/common-scripts/resources/CFM4-Deprecated-components.csv:
*****

Reading and parsing /var/run/cloudera-scm-agent/process/60-nifi-NIFI_NODE-PreUpgradeCheck/scripts/common-scripts/resources/NiFi-1.x-components-with-legacy-Kerberos-properties.csv:
*****

Reading and parsing flow.json.gz:
*****

*****
***** CHECKING THAT UPGRADE PATH IS SUPPORTED
***** (It is required to be on CFM 2.1.7+ before upgrading to CFM 4.0.0+)
*****
Get current CFM version from bootstrap.conf and check it's valid to upgrade to CFM with NiFi 2.0 (CFM-4.0.0.0 or newer)
Property value for 'working.dir' = /opt/cloudera/parcels/CFM-2.1.7.1000-42/NIFI
Current CFM version could be upgraded to CFM with NiFi 2.0 (CFM-4.0.0.0 or newer).

```

```

*****
*****
***** CHECKING THAT JAVA 21 IS USED
***** (Java 21 is the minimum Java version required for NiFi
and NiFi Registry 2.0)
*****
Get 'java' property value from bootstrap.conf
Property value for 'java' = java
Getting java home from JAVA_HOME in env variables.
Executing command: /usr/java/jdk1.8.0_232-cloudera/bin/java -version 2>&1 |
awk -F["\."] -v OFS=. 'NR==1{print $2}'
Command output: 1

WARN: Your current Java version is too low for upgrading to NiFi 2.0 (CFM-
4.0.0.0). Please install Java version 21 on each host with NiFi and follow t
he upgrade documentation for NiFi 2.0 (CFM-4.0.0.0). NOTE: Do not change the
JDK for the current NiFi. It should only be changed during the upgrade to N
iFi 2.0 (CFM-4.0.0.0).

*****
***** CHECKING FOR REMOVED COMPONENTS
***** Some components have been removed in NiFi 2.0.
***** You should switch to the recommended option before up
grading.
***** If not, those components will be showing as ghost comp
onents in NiFi.
*****
ERROR: Component identifier: '8d74d462-7c52-35d1-ad1b-665696503ea2' of type
'org.apache.nifi.processors.gettcp.GetTCP', group 'org.apache.nifi' and art
ifact 'nifi-tcp-nar' is no longer supported.
ERROR: Component identifier: 'f78dba93-e6ec-38d7-b5e4-fdbcd09fd831' of type
'org.apache.nifi.processors.pulsar.pubsub.PublishPulsar', group 'io.streamm
ative.connectors' and artifact 'nifi-pulsar-nar' is removed, but it is plann
ed to be reintroduced later. Please check the available CFM-4.x releases.
ERROR: Component identifier: '2e2edf20-3efc-388a-ac96-943b717e5252' of type
'org.apache.nifi.processors.twitter.GetTwitter', group 'org.apache.nifi' a
nd artifact 'nifi-social-media-nar' is no longer supported. Please consider
using 'ConsumeTwitter' instead.
ERROR: Component identifier: 'a0766b6b-140e-31a8-afb-80f10459f870' of type
'org.apache.nifi.kerberos.KeytabCredentialsService', group 'org.apache.nifi'
and artifact 'nifi-kerberos-credentials-service-nar' is no longer supported
. Please consider using 'KerberosKeytabUserService' instead.
*****

*****
***** CHECKING FOR REMOVED SCRIPTING LANGUAGES
***** Some scripting languages have been removed in NiFi 2.0.
***** You should rewrite your scripted components using Gr
oovy as language or leverage the new Python API in NiFi 2.0.
***** If not, those components will be showing as invalid in
NiFi 2.0.
*****
ERROR: Component identifier: 'e0334fb0-738b-3000-bdfc-fee3e59f539d' of type
'org.apache.nifi.processors.script.InvokeScriptedProcessor', group 'org.apac
he.nifi' and artifact 'nifi-scripting-nar' has deprecated 'Script Engine' va
lue 'ruby'.
ERROR: Component identifier: 'e9d304ef-6c58-39ea-aa27-c01a6d5718fe' of type
'org.apache.nifi.processors.script.ExecuteScript', group 'org.apache.nifi' a
nd artifact 'nifi-scripting-nar' has deprecated 'Script Engine' value 'pytho
n'.
*****

*****
***** CHECKING FOR VARIABLES

```

```

***** Variables no longer exist in NiFi 2.0 and are replaced
by Parameters and Parameter Contexts.
*****
ERROR: Component identifier: 'e65e16f2-d5ba-32b4-a04e-1ae97c44da02' contains
  2 variable(s).
ERROR: Component identifier: '1428d513-770b-3c26-94c9-9641d57050c1' contains
  3 variable(s).
*****

*****
***** CHECKING FOR EVENT DRIVEN SCHEDULING STRATEGY
***** Event Driven Scheduling Strategy no longer exists. Use
Time Driven scheduling strategy instead.
*****
No component is configured with Event Driven scheduling strategy.
*****

*****
***** CHECKING FOR TEMPLATES
***** Templates no longer exist in NiFi 2.0. The use of NiFi
Registry is recommended for versioning flows.
*****
ERROR: Component identifier: '6c387684-c2f2-3bbe-b485-8b6593cda6ba' with '
componentType' 'TEMPLATE'.
*****
*****
***** CHECKING FOR INCORRECT KERBEROS CONFIGURATION
***** NiFi components with Kerberos configuration that are a
vailable in NiFi 2.0 should be configured with the 'Kerberos User Service'
*****
ERROR: Component identifier: 'a716b969-9163-3e70-a162-b819b9ec4b63' of type
'org.apache.nifi.processors.kafka.pubsub.ConsumeKafka_2_6', group 'org.apach
e.nifi' and artifact 'nifi-kafka-2-6-nar' has configured Kerberos properties
. Please configure Kerberos using 'KerberosUserService', as this is the only
configuration supported in NiFi 2.0.
ERROR: Component identifier: '0d650d47-5136-303c-a694-678a027b27cf' of type
'org.apache.nifi.processors.parquet.PutParquet', group 'org.apache.nifi' a
nd artifact 'nifi-parquet-nar' has configured Kerberos properties. Please co
nfigure Kerberos using 'KerberosUserService', as this is the only configurat
ion supported in NiFi 2.0.
ERROR: Component identifier: '86c88c6a-369f-3209-9a79-dd6168c28b48' of type
'org.apache.nifi.processors.hadoop.PutHDFS', group 'org.apache.nifi' and
artifact 'nifi-hadoop-nar' has configured Kerberos properties. Please config
ure Kerberos using 'KerberosUserService', as this is the only configuration
supported in NiFi 2.0.
*****
*****
*****
Script finished work successfully
ERROR: You should not upgrade until the above errors are taken care of!

```

## Running a manual migration precheck for NiFi managed by Cloudera Manager

When preparing to migrate from Cloudera Flow Management 2.1.7 (NiFi 1-based) to Cloudera Flow Management 4.x (NiFi 2-based), you can run the migration precheck manually from the command line on your NiFi nodes, even if NiFi is managed by Cloudera Manager. The precheck helps identify potential issues before the transition to NiFi 2 by highlighting the required preparation steps and flagging breaking changes that cannot be automatically handled by the Cloudera Flow Management Migration Tool. The manual precheck provides greater administrative control and is

useful in scenarios where a command-line-based process is required or preferred. Follow the below steps to perform a precheck directly from the command line.

### About this task

This task must be performed in Cloudera Flow Management 2.1.7.

### Procedure

1. Switch the user to NiFi using `su nifi`.
2. Find the location of these files.
  - a. `pre_upgrade_check.py`
  - b. `CFM4-Deprecated-components.csv`
  - c. `NiFi-1.x-components-with-legacy-Kerberos-properties.csv`
3. Identify the `#{NIFI_WORKING_DIRECTORY}` environment variable, which can be found in `stdout.log` during NiFi startup.
4. Use Python3 to run the script with the following command, replacing the placeholders with the actual paths.

```
python3 [***/path/to***/pre_upgrade_check.py \
"${NIFI_WORKING_DIRECTORY}/flow.json.gz" \
"[***/path/to***/CFM4-Deprecated-components.csv" \
"[***/path/to***/NiFi-1.x-components-with-legacy-Kerberos-properties.csv" \
\
"[**NIFI_WORKING_DIRECTORY**]/config_backup/bootstrap.conf" \
"${CUSTOM_JAVA_HOME}"
```

5. If necessary, specify the `#{CUSTOM_JAVA_HOME}` argument.  
This should be set if the `JAVA_HOME` environment variable for the "nifi" user is different from the `JAVA_HOME` you are using to run the NiFi service.
6. Once all file paths are updated in the command, run it to start the migration precheck.

## Running a manual migration precheck for standalone NiFi (not managed by Cloudera Manager)

In environments where NiFi is not managed by Cloudera Manager, you can run a manual migration precheck directly from the command line on NiFi nodes to prepare for the migration from Cloudera Flow Management 2.1.7 (NiFi 1-based) to Cloudera Flow Management 4.x (NiFi 2-based). Follow the below steps to perform the precheck.

### About this task

This task must be performed in Cloudera Flow Management 2.1.7.

### Procedure

1. Download the migration precheck script and the associated CSV files listing the components deprecated in NiFi 2 and the components with updated Kerberos properties.  
These files are part of the Cloudera Service Descriptor (CSD) package available behind the paywall.
  - a) Download the NiFi CSD file and unzip it.
  - b) Locate the required files.
    - `scripts/service-commands/pre_upgrade_check.py`
    - `scripts/common-scripts/resources/CFM4-Deprecated-components.csv`
    - `scripts/common-scripts/resources/NiFi-1.x-components-with-legacy-Kerberos-properties.csv`

2. After downloading the files, run the migration precheck script using the following command.

```
su nifi
python3 [***path_to***/pre_upgrade_check.py \
" [***path_to***/flow.json.gz" \
" [***path_to***/CFM4-Deprecated-components.csv" \
" [***path_to***/NiFi-1.x-components-with-legacy-Kerberos-properties.csv" \
" [***path_to***/bootstrap.conf" \
" " \
" [***path_to***/nifi-framework-nar-<version>.nar" \
" [***path_to***/nifi.sh"
```

**Note:**

Replace the placeholder paths with the actual locations of your files.

For example:

```
su nifi
python3 /tmp/scripts/service-commands/pre_upgrade_check.py \
/var/lib/nifi/flow.json.gz \
"/tmp/scripts/common-scripts/resources/CFM4-Deprecated-components.csv" \
"/tmp/scripts/common-scripts/resources/NiFi-1.x-components-with-legacy-Kerberos-properties.csv" \
"/tmp/nifi-1.26.0.2.1.7.1000-25/conf/bootstrap.conf" \
" " \
"/tmp/nifi-1.26.0.2.1.7.1000-25/lib/nifi-framework-nar-1.26.0.2.1.7.1000-25.nar" \
"/tmp/nifi-1.26.0.2.1.7.1000-25/bin/nifi.sh"
```

The script generates a detailed report highlighting any issues that need to be resolved before upgrading to NiFi 2.

3. Review this report thoroughly to ensure a smooth migration process.