Cloudera Flow Management 2.1.2

Cloudera Flow Management Release Notes

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Contents

What's new in this release?

You must be aware of the additional functionalities and improvements to features of components in Cloudera Flow Management (CFM) 2.1.2. Learn how the new features and improvements benefit you.

log4j vulnerability updates

On December 21, 2021 Cloudera released a hotfix for Cloudera Flow Management on Private Cloud Base. It addresses 2 CVEs and other vulnerability concerns as listed below. Cloudera urges all customers to upgrade their DataFlow services to the latest version.

- CVE-2021-44228 which affects Apache Log4j2 versions 2.0 through 2.14.1.
- CVE-2021-45046 which affects Apache Log4j2 version 2.15.0
- LOGBACK-1591 which affects logback versions <= 1.2.7

Important:

NiFi contains the vulnerable log4j2 libraries and should be updated. For information about the available hotfix, contact your Cloudera Support representative.

Cloudera is not aware of known exploitation paths within CFM for Private Cloud Base, however upgrading protects against the possibility of any exploitation.

RHEL/CentOS 8.2 and Ubuntu 20.04 support

As CFM 2.1.2 is certified with CDP 7.1.7, you can install CFM 2.1.2 with CDP 7.1.7 on RHEL/CentOS 8.2 and Ubuntu 20.04 operating systems.

ASN1 Reader

A new Controller Service uses the record API while reading ASN1 data.

Cloudera Kafka processors

New Kafka processors to support the Kafka client version provided in CDP Private Cloud Base 7.1.7.

Consume Kinesis Stream processor

New processor to consume data from AWS Kinesis Stream.

Decrypt and Encrypt Content PGP processors

New processors to decrypt and encrypt data using PGP.

NAR hot loading from object stores

Custom NARs can be loaded from object stores such as HDFS, S3, ADLS, GCS, and similar.

Related Information

SAML Authentication
NiFi Restricted Components
FIPS 140-2 Compliance
Status History Repository
CFM upgrade and migration paths

Component support

List of the official component versions for Cloudera Flow Management. To know the component versions for compatibility with other applications, you must be familiar with the latest component versions in CFM.

Note:

NiFi works with the version of NiFi Registry shipped with your version of CFM or later.

CFM 2.1.2

- Apache NiFi 1.13.2.2.1.2.0
- Apache NiFi Registry 0.8.0.2.1.2.0

CFM 2.1.1

- Apache NiFi 1.13.2.2.1.1.0
- Apache NiFi Registry 0.8.0.2.1.1.0

CFM 2.0.4

- Apache NiFi 1.11.4
- Apache NiFi Registry 0.6.0

For more information, see the *CFM 2.0.4 Release Notes*.

CFM 2.0.1

- Apache NiFi 1.11.4
- Apache NiFi Registry 0.6.0

For more information, see the *CFM 2.0.1 Release Notes*.

Related Information

CFM 2.0.4 Release Notes

CFM 2.0.1 Release Notes

Unsupported Features

The following features are developed and tested by the Cloudera community but are not officially supported by Cloudera. These features are excluded for a variety of reasons, including insufficient reliability or incomplete test case coverage, declaration of non-production readiness by the community at large, and feature deviation from Cloudera best practices. Do not use these features in your production environments.

Technical Preview Features

The following features are available within CFM 2.1.2 but are not ready for production deployment. Cloudera encourages you to explore these technical preview features in non-production environments and provide feedback on your experiences through the Cloudera Community Forums.

- The following rules engine and handlers controller services:
  - EasyRulesEngineService
  - EasyRulesEngineProvider
  - ScriptedRulesEngine
  - ActionHandlerLookup
  - AlertHandler
  - ExpressionHandler
  - LogHandler
  - RecordSinkHandler
  - ScriptedActionHandler

Unsupported Customizations

Cloudera cannot guarantee that default NiFi processors are compatible with proprietary protocol implementations or proprietary interface extensions. For example, we support interfaces like JMS and JDBC that are built around standards, specifications, or open protocols. But we do not support customizations of those interfaces, or proprietary extensions built on top of those interfaces.

Behavioral Changes

Learn about the change in behavior in this version of CFM 2.1.2.

There are no behavior changes introduced in CFM 2.1.2.

Related Information

Apache NiFi Migration Guidance

NiFi Restricted Components

Known Issues

Summarizes known issues for this release.

Special characters in Keystore/Truststore passwords

If there are special characters in the passwords of the truststores/keystores, the normal operation of NiFi and its integration with Cloudera Manager (command and control, monitoring, etc) is affected.

Update the passwords using only [A-Z a-z 0-9] characters or upgrade to CFM 2.1.5. You can also file a support case to get a hotfix from Cloudera Support.

Framework NAR missing with Windows MSI

If you are installing NiFi using the Windows MSI, you may see the following error when starting NiFi:

```
No framework NAR found
```

Download the framework NAR file and add it to the lib directory in your NiFi deployment.

NiFi UI Performance considerations

A known issue in Chrome 92.x causes significant slowness in the NiFi UI and may lead to high CPU consumption.

For more information, see the *Chrome Known Issues documentation* at 1235045.

Use another version of Chrome or a different browser.

NiFi Registry Null Pointer Exeception

The /buckets/{bucketId}/bundles/nifi-nar API in NiFi Registry may throw a NullPointerException.

If you are using this API, contact Cloudera for a Hotfix.

JDK limitation

JDK 8u271, JDK 8u281, and JDK 8u291 may cause socket leak issues in NiFi due to JDK-8245417 and JDK-8256818. Pay attention to the build version of your JDK because some later builds are fixed as described in JDK-8256818.

Consider using a more recent version of the JDK like 8u282, or builds of the JDK where the issue is fixed.

UI render bulletins for referencing components from new data model

As part of another issue, the referencing components data model will include bulletins. Currently, for each referencing component, a REST call is made to get the bulletins (there is some batching here, but not important). Once the data model provides the bulletins those requests will no longer be needed.

For more information, see NIFI-8387.

There is no workaround for this issue.

When fetching Parameter Context, Variable Registry or Controller Services, referencing components should include bulletins

When a request is made to fetch a Parameter Context, a Variable Registry, or a Controller Service, we send back a list of referencing entities. This includes things like validation errors but not bulletins. The UI is then forced to query the bulletin board to get bulletins for each of the affected components.

For more information, see NIFI-8386.

There is no workaround for this issue.

KafkaRecordSink puts multiple records in one message

All the records are sent as a single Kafka message containing an array of records.

For more information, see NIFI-8326.

There is no workaround for this issue.

Site to Site may fail if data exchange takes more than 30 seconds

For more information, see NIFI-7912.

There is no workaround for this issue.

Technical Service Bulletins

TSB 2022-580: NiFi Processors cannot write to content repository

If the content repository disk is filled more than 50% (or any other value that is set in nifi.properties for nifi.content.repository.archive.max.usage.percentage), and if there is no data in the content repository archive, the following warning message can be found in the logs: "Unable to write flowfile content to content repository container default due to archive file size constraints; waiting for archive cleanup". This would block the processors and no more data is processed.

This appears to only happen if there is already data in the content repository on startup that needs to be archived, or if the following message is logged: “Found unknown file XYZ in the File System Repository; archiving file”.

Upstream JIRA

- NIFI-10023
- NIFI-9993

Knowledge article

For the latest update on this issue see the corresponding Knowledge article: TSB 2022-580: NiFi Processors cannot write to content repository

TSB 2022-589: CVE-2022-33140 Apache NiFi ShellUserGroupProvider Vulnerability

The optional ShellUserGroupProvider in Apache NiFi 1.10.0 to 1.16.2 and Apache NiFi Registry 0.6.0 to 1.16.2 does not neutralize arguments for group resolution commands, allowing injection of operating system commands on Linux and macOS platforms. The ShellUserGroupProvider is not included in the default configuration. Command injection requires ShellUserGroupProvider to be one of the enabled User Group Providers (UGP) in the Authorizers configuration. Command injection also requires an authenticated user with elevated privileges. Apache NiFi requires an authenticated user with authorization to modify access policies in order to execute the command. Apache NiFi Registry requires an authenticated user with authorization to read user groups in order to execute the command. The resolution removes command formatting based on user-provided arguments.

Knowledge article

For the latest update on this issue see the corresponding Knowledge article: TSB 2022-589: CVE-2022-33140 Apache NiFi ShellUserGroupProvider Vulnerability

Fixed Issues

Review the list of Cloudera Flow Management issues that are resolved in CFM 2.1.2.

- NIFI-8429 - DBCPConnectionPool leaks registered drivers
- NIFI-8474 - Add new Replacement Strategy for variable substitution in ReplaceText
- NIFI-8344 & NIFI-8458 - Improve TailFile to continue tailing a file for some time after it has been rolled over
- NIFI-8435 - Improve PutKudu memory consumption
- NIFI-8419 - NPE when updating parameter context in a secure instance/cluster
- NIFI-8251 - Add Encrypt and Decrypt PGP Processors and Services
- NIFI-8439 - Handle parquet INT96 timestamps as byte-arrays (instead of exception)
- NIFI-8658 - Allow for filtering functions to be used as top-level functions for RecordPath
- NIFI-8659 - JoltTransformRecord should support transformation of one record to multiple output records
- NIFI-8390 - Handle HBase namespaces in Atlas reporting task
- NIFI-8522 & NIFI-8640 - NiFi can duplicate controller services when generating templates
- NIFI-8330 - JythonScriptEngineConfigurator needs to recompile on init()
- NIFI-8625 - ExecuteScript processor always stuck after restart or multi thread
- NIFI-8642 - Select the default Old Gen Memory Pool for Memory Reporting Task
- NIFI-8656 - Support expression language for SAS Token in the ADLS Gen2 processors
- NIFI-8717 - Refactoring PutHDFS processor
- NIFI-8768 - Incorrect Date Parsing from String in Record Readers
- NIFI-8661 - Update Record Reader/Writer lookup services to not require specific attributes exist
- NIFI-8759 - ExecuteSQL and ExecuteSQLRecord unnecessarily fall back to default decimal scale
- NIFI-8433 - Add decommission command to nifi.sh
- NIFI-8320 - Fetching wrong schema from PostgreSQL DB
- NIFI-6061 - PutDatabaseRecord does not properly handle BLOB/CLOB fields
- NIFI-8662 - Failed to parse AWS region from VPCE endpoint URL in AbstractAWSProcessor
- NIFI-8519 & NIFI-8736 & NIFI-8735 - HDFS support for Hot Loading
- NIFI-8737 - Incorrect provenance data in HDFS processors with ADLS destination
- NIFI-8630 - Upgraded javax.mail 1.4.7 to jakarta.mail 2.0.1 for PutEmail
- NIFI-8748 - PutKudu Incorrect Date Conversion from String
- NIFI-8764 - Refactor UnpackContent to use Commons Compress and Zip4j

- NIFI-8762 - ADLSCredentialControllerService does not support EL for Storage Account name
- NIFI-8770 - Use queue drainTo() on shutdown in HandleHttpRequest
- NIFI-8787 - Wrapped hdfs.exists() call in UGI.doAs() in GetHDFS processor
- NIFI-8928 - Upgrade Jetty to 9.4.43.v20210629
- NIFI-8756 - Upgraded AngularJS to 1.8.2 and JQuery to 3.6.0
- NIFI-8782 - Added Rate-Limiting for Access Token Requests
- NIFI-8937 - Show component name and version in configure dialog's title bar
- NIFI-8329 - Updated dependencies with no build failures
- NIFI-8388 - Hazelcast 4.2
- NIFI-8485 - Jetty 9.4.40
- NIFI-8513 - Spring Framework 4.3.30
- NIFI-8515 - Apache Tika 1.26
- NIFI-8502 - Spring Framework 5.3.6
- NIFI-8538 - Apache Commons IO 2.8.0
- NIFI-8343 - Solr 8.8.2
- NIFI-8614 - Spring Framework 5 issue with Cluster Node Firewall Bean
- NIFI-8604 - Apache Accumulo 2.0.1
- NIFI-8627 - Apache Derby 10.14.2.0
- NIFI-8705 - Jetty 9.4.42
- NIFI-8704 - Spring Framework 5.3.8
- NIFI-8682 - opencsv 5.4
- NIFI-8699 - Lucene 8.8.2
- NIFI-8708 - Spring Framework 5.3.8 for extension components
- NIFI-8718 - Apache Commons IO 2.10.0
- NIFI-8724 - Bouncy Castle 1.69
- NIFI-8723 - Jackson 2.12.3
- NIFI-8788 - Upgraded dependencies and removed unnecessary log4j test dependency
- NiFi Registry dependencies upgrade: spring.boot.version to 2.5.1, spring.version to 5.3.8, jersey.server.version to 2.33, jetty.version to 9.4.42.v20210604, jackson.version to 2.12.3, bouncycastle.version to 1.69.

Common Vulnerabilities and Exposures

Lists common vulnerabilities and exposures fixed in CFM 2.1.2.

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Important:

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Cloudera is not aware of known exploitation paths within CFM for Private Cloud Base, however upgrading protects against the possibility of any exploitation.

Download from the CFM Repository

Use the following tables to identify the Cloudera Flow Management (CFM) repository location for your operating system and operational objectives.

Note:

You must have credentials to download CFM files. Your download credential is not the same as the credential you use to access the support portal.

You can get download credentials in the following ways:

- Contact your Cloudera sales representative.
- View the Welcome email for your Flow Management account.
- File a non-technical case within the Cloudera support portal for our Support team to assist you.

Table 1: RHEL/CentOS 7

File	Location
Manifest	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/parcel/manifest.json
Parcel	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/parcel/CFM-2.1.2.0-283-el7.parcel
Parcel sha file	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/parcel/CFM-2.1.2.0-283-el7.parcel.sha

Table 2: RHEL/CentOS 8

File	Location
Manifest	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat8/yum/tars/parcel/manifest.json
Parcel	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat8/yum/tars/parcel/CFM-2.1.2.0-283-el8.parcel
Parcel sha file	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat8/yum/tars/parcel/CFM-2.1.2.0-283-el8.parcel.sha

Table 3: SLES 12

File	Location
Manifest	https://archive.cloudera.com/p/cfm2/2.1.2.0/sles12/yum/tars/parcel/manifest.json
Parcel	https://archive.cloudera.com/p/cfm2/2.1.2.0/sles12/yum/tars/parcel/CFM-2.1.2.0-283-sles12.parcel
Parcel sha file	https://archive.cloudera.com/p/cfm2/2.1.2.0/sles12/yum/tars/parcel/CFM-2.1.2.0-283-sles12.parcel.sha

Table 4: Ubuntu 18

File	Location
Manifest	https://archive.cloudera.com/p/cfm2/2.1.2.0/ubuntu18/apt/tars/parcel/manifest.json
Parcel	https://archive.cloudera.com/p/cfm2/2.1.2.0/ubuntu18/apt/tars/parcel/CFM-2.1.2.0-283-bionic.parcel
Parcel sha file	https://archive.cloudera.com/p/cfm2/2.1.2.0/ubuntu18/apt/tars/parcel/CFM-2.1.2.0-283-bionic.parcel.sha

Table 5: Ubuntu 20

File	Location
Manifest	https://archive.cloudera.com/p/cfm2/2.1.2.0/ubuntu20/apt/tars/parcel/manifest.json
Parcel	https://archive.cloudera.com/p/cfm2/2.1.2.0/ubuntu20/apt/tars/parcel/CFM-2.1.2.0-283-focal.parcel
Parcel sha file	https://archive.cloudera.com/p/cfm2/2.1.2.0/ubuntu20/apt/tars/parcel/CFM-2.1.2.0-283-focal.parcel.sha

Table 6: CSD files

File	Location
NiFi	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/parcel/NIFI-1.13.2.2.1.2.0-283.jar
NiFi Registry	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/parcel/NIFIREGISTRY-0.8.0.2.1.2.0-283.jar

Table 7: Standalone components

File	Location
NiFi (.tar.gz)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi/nifi-1.13.2.2.1.2.0-283-bin.tar.gz
NiFi (.zip)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi/nifi-1.13.2.2.1.2.0-283-bin.zip
NiFi (.zip.sha256)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi/nifi-1.13.2.2.1.2.0-283-bin.zip.sha256
NiFi Registry (.tar.gz)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi_registry/nifi-registry-0.8.0.2.1.2.0-283-bin.tar.gz
NiFi Toolkit (.tar.gz)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi/nifi-toolkit-1.13.2.2.1.2.0-283-bin.tar.gz
NiFi Toolkit (.zip)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi/nifi-toolkit-1.13.2.2.1.2.0-283-bin.zip
NiFi Toolkit (.zip.sha256)	https://archive.cloudera.com/p/cfm2/2.1.2.0/redhat7/yum/tars/nifi/nifi-toolkit-1.13.2.2.1.2.0-283-bin.zip.sha256

Table 8: Windows files

File	Location
NiFi MSI	https://archive.cloudera.com/p/cfm2/2.1.2.0/windows/nifi-2.1.2.0-283.msi
NiFi MSI sha file	https://archive.cloudera.com/p/cfm2/2.1.2.0/windows/nifi-2.1.2.0-283.msi.sha