

# Release Notes

- [NiFi NAR Maven Plugin Version 2.0.0](#)
- [Version 2.0.0-M3](#)
- [Version 2.0.0-M2](#)
- [Version 2.0.0-M1](#)
- [Version 1.26.0](#)
- [Version 1.25.0](#)
- [Version 1.24.0](#)
- [Version 1.23.2](#)
- [Version 1.23.1](#)
- [Version 1.23.0](#)
- [NiFi NAR Maven Plugin Version 1.5.1](#)
- [Version 1.22.0](#)
- [Version 1.21.0](#)
- [NiFi NAR Maven Plugin Version 1.5.0](#)
- [Version 1.20.0](#)
- [NiFi NAR Maven Plugin Version 1.4.0](#)
- [Version 1.19.1](#)
- [Version 1.19.0](#)
- [Version 1.18.0](#)
- [Version 1.17.0](#)
- [NiFi NAR Maven Plugin Version 1.3.5](#)
- [NiFi NAR Maven Plugin Version 1.3.4](#)
- [Version 1.16.3](#)
- [Version 1.16.2](#)
- [Version 1.16.1](#)
- [Version 1.16.0](#)
- [NiFi Flow Design System 0.3.0](#)
- [Version 1.15.3](#)
- [Version 1.15.2](#)
- [Version 1.15.1](#)
- [NiFi NAR Maven Plugin Version 1.3.3](#)
- [Version 1.15.0](#)
- [Version 1.14.0](#)
- [Version 1.13.2](#)
- [Version 1.13.1](#)
- [Version 1.13.0](#)
- [Version 1.12.1](#)
- [NiFi NAR Maven Plugin Version 1.3.2](#)
- [Version 1.12.0](#)
- [Version 1.11.4](#)
- [Version 1.11.3](#)
- [Version 1.11.2](#)
- [Version 1.11.1](#)
- [Version 1.11.0](#)
- [Version 1.10.0](#)
- [NiFi Flow Design System 0.2.0](#)
- [NiFi NAR Maven Plugin Version 1.3.1](#)
- [NiFi NAR Maven Plugin Version 1.3.0](#)
- [Version 1.9.2](#)
- [Version 1.9.1](#)
- [Version 1.9.0](#)
- [Version 1.8.0](#)
- [Version 1.7.1](#)
- [Version 1.7.0](#)
- [NiFi Flow Design System 0.1.0](#)
- [Version 1.6.0](#)
- [Version 1.5.0](#)
- [Version 1.4.0](#)
- [Version 1.3.0](#)
- [Version 1.2.0](#)
- [NiFi NAR Maven Plugin Version 1.2.0](#)
- [Version 1.1.2](#)
- [Version 1.1.1](#)
- [Version 1.1.0](#)
- [Version 1.0.1](#)
- [Version 1.0.0](#)
- [Version 0.7.4](#)
- [Version 0.7.3](#)
- [Version 0.7.2](#)
- [Version 0.7.1](#)
- [Version 0.7.0](#)
- [Version 0.6.1](#)
- [Version 0.6.0](#)
- [Version 0.5.1](#)
- [Version 0.5.0](#)

- [Version 0.4.1](#)
- [Version 0.4.0](#)
- [Version 0.3.0](#)
- [NiFi NAR Maven Plugin Version 1.1.0](#)
- [Version 0.2.1](#)

## NiFi NAR Maven Plugin Version 2.0.0

Version 2.0.0 of Apache NiFi NAR Maven Plugin is a bug fix and dependency upgrade release.

Release Date: May XXX, 2024

Highlights of the NAR Maven Plugin 2.0.0 release include:

- Add a flag to skip documentation generation
- Add Parameter Providers and Flow Analysis Rules as extension types
- Attach extension-manifest.xml to build as an artifact
- Dependencies housekeeping and move to Java 21 and Maven 3.9.6 to align with NiFi 2

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12354745>

## Version 2.0.0-M3

Version 2.0.0-M3 is the third milestone version of Apache NiFi 2.0.0.

Release Date: May 16, 2024

[Jira Release Notes for 2.0.0-M3](#)

Please refer to the [Deprecated Components and Features](#) documentation for items removed in this version.

[Migrating Deprecated Components and Features for 2.0.0](#) includes current progress on the steps necessary for migrating certain components and features.

### New Capabilities

- The new Apache NiFi UI is included and available at the `/nf` context path!
  - The current stable and pre-existing nifi UI remains available at <https://host:port/nifi>
  - The new UI is available at <https://host:port/nf>
  - This is an entirely newly implemented UI that remains faithful to most of the existing user experience but cleans things in up in various ways. It provides a far more modern stack to build on and includes various niceties such as a dark mode - to all those enterprises around the world that have been using NiFi in SOC or other dark rooms for a long time - we're sorry it took so long but you'll love the new dark theme. Once the new UI has all the critical bits to be fully GA we will remove the old one and the only context path will be 'nifi'.
- Python components can now be loaded from a NAR with included dependencies. This allows for strong development processes which leverage pip or anacodona but keeps secure practices in place for deployment where such processes may be blocked.
- [OpenID Connect](#) integration now supports the [OAuth 2.0 Client Credentials Flow](#) for programmatic access. The Authorization Code Flow now supports [Proof Key for Code Exchange](#) for enhanced security with browser-based authentication.
- New RecordReader and support for [Protobuf](#).
- Support for [OpenSearch](#) to both publish and query vectors/embeddings.
- New capability allows usage of a Flow Registry client where the 'registry' is simply a Github Repo. The can greatly simplify the SDLC processes and this mechanism now supports branches!

### Key Improvements

- The Python integration is really solid and tested both at scale and for behaviors over long duration. Logging behaviors and packaging options all improved.
- We have upgraded nearly all major dependencies and thousands of minor dependencies to their latest available versions and removed components for which dependencies are no longer actively maintained.

### Breaking Changes

- Removed separate distribution of Kafka Connect modules from external modules
- Removed Apache Accumulo 2 Processors and Services
- Removed Apache Atlas Reporting Task
- Removed Apache Hive 3 Processors and Services
- Removed Apache Ranger Plugin
- Removed Apache Solr Processors
- Removed Cassandra 3 Processors and Services
- Removed ConvertAvroToJSON Processor
- Removed Couchbase Processors and Services
- Removed Datadog Reporting Task
- Removed ExecuteStateless Processor
- Removed InvokeAWSGatewayApi Processor
- Removed Spark Livy Components

# Version 2.0.0-M2

Version 2.0.0-M2 is the second milestone version of Apache NiFi 2.0.0.

This version includes a number of new features and substantial dependency upgrades, as well as several breaking changes.

Release Date: January 29, 2024

[Jira Release Notes for 2.0.0-M2](#)

## New Components

- Controller Services
  - DatabaseTableSchemaRegistryService
  - StandardKustoIngestService
  - StandardJsonSchemaRegistry
  - ZendeskRecordSink
- Processors
  - CalculateParquetOffsets
  - CalculateParquetRowGroupOffsets
  - FilterAttribute
  - PublishSlack
  - PutMongoBulk
  - PutAzureDataExplorer
  - PutZendeskTicket

## Notable Upgrades

- Spring Framework 6
- Jetty 12
- Jakarta Servlet API 6
- Jakarta XML Binding 4
- Swagger 2 annotations
- OpenAPI 3.0 REST API specification

## Breaking Changes

- Removed MINiFi C2 Server modules and Docker image configuration
- Relocated JoltTransformJSON and JoltTransformRecord from nifi-standard-nar to nifi-jolt-nar
- Removed InfluxDB Processors
- Removed Bootstrap Notification Services
- Moved from [SimpleDateFormat](#) to [DateTimeFormatter](#) for date and time parsing and formatting
- Moving from Servlet API 3 and Servlet API 6 requires custom user interface extensions to be updated and recompiled

# Version 2.0.0-M1

Version 2.0.0-M1 is the first milestone version of Apache NiFi 2.0.0. This version includes over 900 issues resolved, including new features as well as numerous improvements and bug fixes.

Please refer to the [Deprecated Components and Features](#) documentation for items removed in this version.

[Migrating Deprecated Components and Features for 2.0.0](#) includes current progress on the steps necessary for migrating certain components and features.

Release Date: November 25, 2023

[Jira Release Notes for 2.0.0-M1](#)

## New Features and Changes for 2.0.0-M1

- Initial version of native Python API for Processors
- Stateless Execution mode for Process Groups
- Flow Analysis Rules API
- Kubernetes-based Leader Election and State Management extensions
- Python-based Processors for interacting with ChatGPT and Vector Databases
- ListenOTLP Processor for collecting OpenTelemetry
- ListenSlack and ConsumeSlack Processors for handling messages from Slack
- EncryptContentAge and DecryptContentAge Processors supporting [age-encryption.org](#) specification
- Schema Registry Services for Amazon Glue and Apicurio
- Parameter Provider for 1Password Vault
- YamlTreeReader for YAML as Records
- PackageFlowFile Processor for writing file streams and attributes as FlowFile Version 3
- Migrated from H2 Database Engine to [JetBrains Xodus](#) for storing Flow Configuration History
- Moved several modules to optional build profiles, requiring separate NAR download from the Central Repository
  - nifi-hadoop-nar
  - nifi-hadoop-libraries-nar
  - nifi-hbase-nar
  - nifi-hbase2\_client-service-nar

- nifi-kudu-nar
- nifi-parquet-nar
- nifi-solr-nar

## Version 1.26.0

Version 1.26.0 is feature improvement and bug fix release, including over 100 issues resolved.

Release Date: May 6, 2024

[Jira Release Notes for 1.26.0](#)

### New Components

- Controller Services
  - Record Reader for Protobuf data

### Notable Changes

- Support for password-protected sheets in ExcelReader
- Add No Tracking Strategy to ListS3
- Support dynamic host/port in Set/Get SNMP processors
- Add DFS setting to smb processors
- Many improvements around Kerberos authentication handling in processors
- Deprecate Spark Livy components for removal
- Deprecate Solr components for removal
- Deprecate Apache Ranger integration for removal
- Deprecate Hive 3 components for removal
- Deprecate ConvertAvroToJSON processor for removal
- Many dependency upgrades

## Version 1.25.0

Version 1.25.0 is feature improvement and bug fix release, including over 100 issues resolved.

Release Date: January 29, 2024

[Jira Release Notes for 1.25.0](#)

### New Components

- Controller Services
  - DatabaseTableSchemaRegistryService
  - StandardJsonSchemaRegistry
  - ZendeskRecordSink
- Processors
  - CalculateParquetOffsets
  - CalculateParquetRowGroupOffsets
  - FilterAttribute
  - PublishSlack
  - PutZendeskTicket

### Notable Changes

- Added Component State strategy for ConsumeAzureEventHub Checkpointing
- Corrected automated migration of Flow Configuration History from NiFi 1.23.2 and earlier versions
- Deprecate Bootstrap Notification Services for removal in NiFi 2.0.0-M2
- Deprecate MiNiFi C2 Server for removal in NiFi 2.0.0-M2
- Upgraded Logback to 1.3.14
- Upgraded SSHJ to 0.38.0
- Upgraded JLine to 3.25.0
- Upgraded JSON Path to 2.9.0

## Version 1.24.0

Version 1.24.0 of Apache NiFi is a feature improvement and bug fix release, including over 270 issues resolved.

Release Date: November 27, 2023

[Jira Release Notes for 1.24.0](#)

### New Features and Changes for 1.24.0

- ListenOTLP Processor for collecting OpenTelemetry

- EncryptContentAge and DecryptContentAge Processors supporting [age-encryption.org](https://age-encryption.org) specification
- YamlTreeReader for YAML as Records
- PackageFlowFile Processor for writing file streams and attributes as FlowFile Version 3
- Migrated from H2 Database Engine to [JetBrains Xodus](https://jetbrains.com/xodus) for storing Flow Configuration History
- Deprecated Jython Script Engine for Scripted Processors

## Version 1.23.2

Version 1.23.2 of Apache NiFi is a bug fix release. NiFi 1.23.0 and 1.23.1 should not be used.

Release Date: August 22, 2023

Highlights of the 1.23.2 release include:

- Corrected Repository corruption related to [handling empty FlowFiles](#)

## Version 1.23.1

Version 1.23.1 of Apache NiFi is a bug fix and dependency upgrade release.

Release Date: August 18, 2023

Highlights of the 1.23.1 release include:

- Corrected ListHDFS closing of File System resources
- Corrected ListenGRPC with TLS on Java 17
- Corrected NiFi Registry Git Provider integration with SSH
- Added Proxy Configuration support for Azure Storage Credentials
- Incremental dependency upgrades including Logback 1.3.8, Bouncy Castle 1.76, and Netty 4.1.96

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12353541>

## Version 1.23.0

Version 1.23.0 of Apache NiFi is an improvement, bug fix and security focused release.

Release Date: July 28, 2023

Highlights of the 1.23.0 release include:

- Added Record Reader for Excel XLSX Files and RemoveRecordField Processor
- Added Service for Amazon Glue Schema Registry
- Upgraded Spring Framework, Spring Security, Bouncy Castle, and many other libraries for framework and extension components
- Moved Riemann and HBase 1.1.2 NAR bundles to optional build profiles
- Deprecated RethinkDB components

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12353320>

## NiFi NAR Maven Plugin Version 1.5.1

Version 1.5.1 of Apache NiFi NAR Maven Plugin is a bug fix and dependency upgrade release.

Release Date: June 14, 2023

Highlights of the NAR Maven Plugin 1.5.1 release include:

- NAR Plugin extension does not correctly resolving overridden versions from system properties.
- NAR Plugin not correctly using remote repositories.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12353009>

## Version 1.22.0

Version 1.22.0 of Apache NiFi is an improvement, bug fix and security focused release.

Release Date: June 11, 2023

Highlights of the 1.22.0 release include:

- MiNiFi agents can now talk to C2 servers using reverse proxy/load balancers.

- New processor to support modifying the compression algorithm of content which still incurs the CPU hit substantially improves IO by avoiding writing and reading the intermediary decompressed form.
- New processor for Azure Queue Storage using Azure SDK 12.
- Put Database Record now allows for Upserts.
- [Deprecated additional components and features](#) in preparation toward an Apache NiFi 2.0.
- Upgraded numerous dependencies due to potential vulnerabilities and latest stable lines.
- Numerous bug fixes to processors but also core NiFi framework behavior
- A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12353069>

## Version 1.21.0

Version 1.21.0 of Apache NiFi is an improvement, bug fix and security focused release.

Release Date: April 7, 2023

Highlights of the 1.21.0 release include:

- Refactored OpenID Connect integration with support for Refresh Tokens
- [Deprecated additional components and features](#) in preparation toward an Apache NiFi 2.0 such as those involving Apache Ambari or older versions of Apache Kafka clients.
- Upgraded numerous dependencies due to potential vulnerabilities and latest stable lines.
- QuerySalesforceObject now accepts custom queries.
- Numerous bug fixes to processors but also core NiFi framework behavior
- A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352899>

## NiFi NAR Maven Plugin Version 1.5.0

Version 1.5.0 of Apache NiFi NAR Maven Plugin is a bug fix and dependency upgrade release.

Release Date: March 15, 2023

Highlights of the NAR Maven Plugin 1.5.0 release include:

- Fixes Maven build issues with NAR artifacts in NiFi extension projects that are not part of the apache/nifi repository and have NAR dependencies.
- Upgrade core Maven dependencies. This includes migrating from maven-dependency 2.x to 3.x and corresponding code changes due to breaking changes.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352895>

## Version 1.20.0

Version 1.20.0 of Apache NiFi is a feature, improvement, bug fix and security focused release.

Release Date: Feb 9, 2023

Highlights of the 1.20.0 release include:

- New processor 'GenerateRecord' to create record data with random type/schema appropriate data great for testing!
- New processor to capture data from Asana.
- New processor for interacting with Amazon Web Services Polly, Textract, Translate, and Transcribe services.
- New processor to send data to Salesforce
- New processor to send data to [Apache IoTDB](#)
- New processor to push data to Google Drive
- New processor to push data to [Box](#)
- New DecryptContent and DecryptContentCompatibility Processors to support migration away from the EncryptContent Processor
- Several other new processors, components and dozens of improvements.
- Fixed dozens of bugs including improving the behavior between versioned NiFi flows and the NiFi Registry across upgrades and other scenarios
- Resolved [CVE-2023-22832](#) - Improper Restriction of XML External Entity References in ExtractCCDAAAttributes
- [Deprecated additional components and features](#) for removal in 2.0.0
  - ConsumeEWS Processor
  - Base64EncodeContent Processor
  - HortonworksSchemaRegistry Controller Service
  - ProcessContext encrypt and decrypt methods
- A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352581>

## NiFi NAR Maven Plugin Version 1.4.0

Version 1.4.0 of Apache NiFi NAR Maven Plugin is a feature, stability, and bug fix release.

Release Date: February 2, 2023

Highlights of the NAR Maven Plugin 1.4.0 release include:

- Add a new plugin goal that checks dependency duplications in NARs
- Improvements to NAR packaging to make the output reproducible
- Exclude system jars such as `jdk.tools` when generating extension manifest
- Exclude extension dependencies from parent NAR when generating extension manifest

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352124>

## Version 1.19.1

Version 1.19.1 of Apache NiFi is a bug fix and simple improvement release.

Release Date: December 7, 2022

Highlights of the 1.19.1 release include:

- Fixed regressions with NiFi talking to the Flow Registry faced in recent 1.17/1.18/1.19.0 releases.
- Fixed a regression introduced in 1.19.0 for Kafka SCRAM SASL handling.
- Added support for the `SQLServer sql_variant` type and other CDC related improvement/bugs.
- Numerous other simple bug fixes/dependency updates.
- A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352626>

## Version 1.19.0

Version 1.19.0 of Apache NiFi is a feature, improvement, bug fix and security focused release.

Release Date: November 28 2022

Highlights of the 1.19.0 release include:

- Java 8 will continue to work for all NiFi 1.x releases. However, we strongly encourage everyone to upgrade to Java 11.0.16 or newer as this is the recommended minimum version. And once we have the NiFi 2.x line support for Java 8 will no longer exist at all so this will help you with the transition.
- Provided a new processor to Put data to Apache Iceberg called `PutIceberg`.
- Provided a new processor to Put data to Snowflake using `Snowpipe Ingest` called `PutSnowflake`.
- Provided a new processor called `UpdateDatabaseTable` which will be very helpful for cases where the schema of data evolves and the backing tables being written to need DDL changes to accommodate it so data can keep flowing.
- The `Consume Kafka Record` processor now allows writing out the Kafka key of each message which can be quite helpful for certain Apache Kafka based flows.
- Docker images now support arm64 platforms in addition to amd64 (aka `aarch64/x86_64`). This includes Apple Silicon Macs with M1/M2 processors.
- Docker images now use Java 11.
- Upgraded numerous dependencies for security vulnerability concerns such as with Apache Commons Text, performance, functionality, or API stability as is the case with Apache Iceberg 1.0.
- Numerous bug fixes related to `MergeContent`, `Stateless NiFi`, `ListenSyslog`, and many other components.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352345>

## Version 1.18.0

Version 1.18.0 of Apache NiFi is a substantial feature, improvement, bug fix and security focused release.

Release Date: Oct 6 2022

Highlights of the 1.18.0 release include:

- Have various values including sensitive ones like passwords and other things for your flow definitions but don't want them stored in NiFi? Parameter Providers to the rescue! NiFi now allows you to register parameter providers such as HashiCorp Vault, an external database, AWS or GCP Secrets Management. We'll add others like Azure soon.
- NiFi now supports pluggable Registry Clients. This will allow for follow-on implementations such as using a plain git repository as a 'registry' for versioned flows.
- `CompressContent` now supports `ZStd` and `Brotli`.
- New processors to List and Fetch data using `SMB`.
- New processor to Query `Airtable`.
- New component to use Azure's Event Hub as a record sink called `AzureEventHubRecordSink`.
- New processors to List and Fetch data from `Dropbox`.
- New processors to List and Fetch data from `Box`.
- New processor to get data from `HubSpot` called `GetHubSpot`.
- New processors to capture data from `Workday` called `GetWorkdayReport`.

- New processor to pull data from Zendesk.
- Default run duration on processors is now configurable.
- We can now publish to MQTT using the record mechanism which is far more efficient and flexible.
- Updated a ton of dependencies for security and behavior improvements. Fixed a ton of bugs. Improved clustering performance.
- Numerous components are now **flagged as deprecated** and NiFi will write warning messages to nifi-deprecation.log with potential alternatives

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12352150>

## Version 1.17.0

Version 1.17.0 of Apache NiFi is a substantial feature, improvement, bug fix and security focused release.

Release Date: August 1, 2022

Highlights of the 1.17.0 release include:

- NiFi can now be built on ARM based platforms including latest MacOS systems.
- New processor to support query of data from Salesforce.
- New ConsumeTwitter processor to replace the deprecated GetTwitter processor.
- Dynamic properties can now be marked by the user as sensitive and the framework will handle them properly. Many components updated to take advantage of this support.
- The built in content viewer now supports image/webp.
- Added the ability to track detailed metrics such as CPU at processor level.
- New processors to List and Fetch Google Drive files.
- NiFi application, as well as ListenHTTP and HandleHttpRequest processors now support HTTP/2.
- Hundreds of other bug fixes, improvements and dependency updates for better stability and to eliminate libraries with reported vulnerabilities.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351438>

## NiFi NAR Maven Plugin Version 1.3.5

Version 1.3.5 of Apache NiFi NAR Maven Plugin is a bug fix and improvement release.

Release Date: July 21, 2022

Highlights of the 1.3.5 release include:

- Fixed generation of extension manifest XML during building of NARs to correctly process API interfaces that extend other interfaces

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351862>

## NiFi NAR Maven Plugin Version 1.3.4

Version 1.3.4 of Apache NiFi NAR Maven Plugin is a bug fix and improvement release.

Release Date: June 20 2022

Highlights of the 1.3.4 release include:

- Fixed generation of extension manifest XML during building of NARs to recursively include all provided interfaces for Controller Service extensions
- Improvements to NAR packaging to make the output reproducible

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12350909>

## Version 1.16.3

Version 1.16.3 of Apache NiFi is a bug fix and security focused release.

Release Date: June 15 2022

Highlights of the 1.16.3 release include:

- Security related updates for dependencies.
- Corrected a couple framework level issues with controller service and reporting task lifecycle management.
- Resolved a regression related to parameter context inheritance.
- Resolved [CVE-2022-33140](#) - Improper Neutralization of Command Elements in Shell User Group Provider

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351844>



## Version 1.16.2

Version 1.16.2 of Apache NiFi is a bug fix, enhancement, and security focused release.

Release Date: May 25 2022

Highlights of the 1.16.2 release include:

- Fixed an issue with the repository that would cause flows to pause due to back-pressure / archive settings when it should not have.
- Google Pub/Sub processors now able to work with proxies.
- Standard OAuth2 Token Provider now supports scope and additional status codes.
- Fixed a property decryption issue for sensitive properties.
- ASN1 record reading now reads all records instead of stopping after the first one.
- 16 JIRAs to fix bugs, enhance existing capability, and improve security.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351721>

## Version 1.16.1

Version 1.16.1 of Apache NiFi is a bug fix, enhancement, and security focused release.

Release Date: April 29 2022

Highlights of the 1.16.1 release include:

- Fixed regressions in NiFi/Registry interaction from 1.16.
- Fixed regression for NiFi Registry interaction with databases from 1.16.
- Upgraded a large array of dependent libraries due to reported CVEs and/or bug fixes.
- Updates for AWS and Azure components too support more regions and fix defects.
- Substantial improvements to behaviors for XML related processing.
- 80+ JIRAs to fix bugs, enhance existing capability, and improve security.
- Resolved [CVE-2022-29265](#) - Improper Restriction of XML External Entities in Multiple Components

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351504>

## Version 1.16.0

Version 1.16.0 of Apache NiFi is a substantial feature, improvement, bug fix and security focused release.

Release Date: March 27 2022

Highlights of the 1.16.0 release include:

- Framework Level Retry now supported. For many years users build flows in various ways to make retries happen for a configured number of attempts. Now this is easily and cleanly configured in the UI/API and simplifies the user experience and flow design considerably! To those waiting for years for this thank you for your patience.
- Disconnected nodes can now rejoin the cluster, updating their flow to match whatever the cluster gives it (after writing a backup of the disconnected node's flow locally, of course!) - even when the flow is significantly different
- The cluster now allows changes to the dataflow even while there are disconnected nodes
- New components to read CEF messages, easily perform geohashing on records, and to listen for SNMP traps.
- New components to make data enrichment far easier - especially when enrichment comes from web services.
- UI now shows when component properties have leading or trailing whitespace - very helpful when copying a value from elsewhere and pasting it into NiFi
- UI now shows when all data in a queue is penalized, and the processor will no longer run millions of times per minute in order to accomplish nothing
- MINiFi Java can now hot-load nars just like NiFi.
- Tons of bug fixes and improvements for processors that interact with cloud services on AWS, Azure, and GCP as well as SFTP, FTP, Kafka and more.
- Stateless NiFi getting better and better with improved classloader isolation and ability to run off local nars only.
- Security: Aggressively update libraries such as Jetty, Netty, Logging related libs (log4j, slf4j, etc.), and moved to latest H2 Database to eliminate any worries about a vulnerability in the older line. Included a super slick mechanism to upgrade from the old database to the new one without the user having to worry about it.
- Resolved [CVE-2022-26850](#) - Insufficiently Protected Credentials in Single User Login Identity Provider

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12350741>

## NiFi Flow Design System 0.3.0

Version 0.3.0 of Apache NiFi Flow Design System is an atomic reusable platform providing a consistent set of UI/UX components for open source friendly web applications to consume.

Release Date: January 28, 2022

Highlights of the 0.3.0 release include:

- Refined Implementation of some UX components in the Flow Design Specification
- Upgraded build process to leverage modern best practices
  - node/npm
  - webpack - to support faster dev cycles
  - babel - to support TS and/or ES6 javascript modules
- Upgraded client side dependencies:
  - jQuery (3.6.1)
  - Angular (11+)
  - Angular Material (11+)
  - Teradata Covalent (3.1)
  - others...

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12343453&projectId=12316020>

**Note:** The Apache NiFi Registry and Apache MiNiFi Java Agent codebases have been merged with the Apache NiFi codebase as of NiFi 1.14.0. Here are links for their release notes prior to this change:

- [NiFi Registry 0.8.0 and earlier](#)
- [NiFi MiNiFi Java 0.5.0 and earlier](#)

## Version 1.15.3

Version 1.15.3 of Apache NiFi is a purely bug fix and security focused release.

Release Date: January 18 2022

Highlights of the 1.15.3 release include:

- Latest log4j 2.x and logback libs. Ensured all optional nars also have no references to older log4j.
- SFTP works again with authenticated SOCKS and HTTP proxies.
- ExecuteSQLRecord more efficient with large results.
- RPM build works again.
- ConsumeGCPPubSub working again.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351203>

## Version 1.15.2

Version 1.15.2 of Apache NiFi is a purely bug fix and security focused release.

Release Date: December 23 2021

Highlights of the 1.15.2 release include:

- This release ensures that no version of log4j 2.x core is used by any components, blocks them from entering the build, and uses latest log4j 2.x api and other jars as well as latest logback jars.
- A few other bugs fixes related to SFTP, bulletin merging, and updated libs.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351132>

## Version 1.15.1

Version 1.15.1 of Apache NiFi is a bug, simple improvement, security focused release.

Release Date: December 15 2021

Highlights of the 1.15.1 release include:

- This release ensures Apache NiFi and its related components include no 'log4shell' related libraries and it ensures we block legacy log4j lines 1.x and updates logback to latest.
- 44 other bugs and improvements...

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12351055>

## NiFi NAR Maven Plugin Version 1.3.3

Version 1.3.3 of Apache NiFi NAR Maven Plugin is a minor improvement release.

Release Date: December 3 2021

Highlights of the 1.3.3 release include:

- Improvement to generation of extension manifest XML during building of NARs

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12348815>

## Version 1.15.0

Version 1.15.0 of Apache NiFi is a significant feature, improvement, and bug fix release.

Release Date: November 7 2021

Highlights of the 1.15.0 release include:

- Parameter Contexts now support inheritance. This makes it far easier to manage common sets of properties used across many flows and tweak only specific parameters as needed for a given instance. This pattern is super common and valuable for NiFi users that run many instances of the same flow or versions of a flow.
- NiFi's API now allows components to offer a validation mechanism focused on talking to external services and surfacing that back through the REST API and NiFi UI. Why is that awesome? Well NiFi was always great with validation but sometimes when talking to an external service like Kafka you couldn't tell if things were going to work until you ran it. Now for components that leverage this feature, like the Kafka processors, we can validate that the topic at play exists and is accessible. There are a lot of powerful uses of this which will make building and understanding flows easier.
- Stateless NiFi is extremely powerful and more engines to execute it in are emerging. In the meantime though a powerful option is to run Stateless NiFi flows inside of a traditional NiFi deployment. You can use such a thing then to support Kafka flows with exactly once semantics while enjoying the powerful benefits of NiFi at the same time.
- The shockingly popular scripted record processors support highly customizable routing and partitioning.
- 200+ other bugs and improvements and features...

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12350382>

## Version 1.14.0

Version 1.14.0 of Apache NiFi is a significant feature, improvement, and bug fix release.

Release Date: July 14 2021

Highlights of the 1.14.0 release include:

- NiFi now starts up in a mode enabling security features by default. This means NiFi starts up with HTTPS only now instead of HTTP and it requires a specific auto generated username and password to login or the user can explicitly set the username and password which will be used via the provided toolkit. Gone are the days of firing a default NiFi and it is accessible via HTTP without authentication. That convenience was wonderful but we found far too many users did this and left wide open NiFi nodes and even clusters accessible on the Internet. Our secure configuration by default model generates a self-signed server certificate which obviously means that itself isn't very trustworthy for any given client so your browser will likely flag this but we're taking reasonable steps in the right direction. All the normal recommended security steps are still recommended to ensure a fully secure setup but the default mode is now far better than ever before.
- We have merged the codebases of the Apache NiFi, Apache NiFi MiniFi Java, and Apache NiFi Registry codebases. This means every time we release Apache NiFi we are releasing NiFi, MiniFi Java, and the Registry all at once and with fully aligned codebases. This means more releases of these components and better compatibility guarantees and easier maintenance and usage and security.
- NiFi's Jetty server can be configured to auto detect keystore changes and reload.
- Now support Azure Active Directory user group provider.
- Now support AWS Kinesis Stream fetching.
- Now provide an ASN.1 record reader.
- Can now right click on a processor and tell it to 'Run Once' - hugely beneficial for common user experience patterns.
- New EncryptContentPGP and DecryptContentPGP processors intended to replace PGP handling in EncryptContent
- Can now use Hashicorp Vault encryption for NiFi properties.
- Now support the usage of an HDFS/S3/etc.. blob storage to hot load NARs.
- 100s of other bugs and improvements and features...

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12349644>

## Version 1.13.2

Version 1.13.2 of Apache NiFi is an important bug fix release.

Release Date: March 19, 2021

Highlights of the 1.13.2 release include:

- Fixed a serious regression in session handling. This release is important to move to on the 1.13 line.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12350008>

## Version 1.13.1

Version 1.13.1 of Apache NiFi is an improvement and bug fix release.

Release Date: March 15, 2021

Lowlight of the 1.13.1 release includes:

- We broke [session handling](#). Avoid using 1.13.1 - we'll have 1.13.2 out shortly.

Highlights of the 1.13.1 release include:

- Fixed PutDatabaseRecord regressions
- MySQL CDC now supports TLS
- Dramatic performance increases for certain small flowfile and merge scenarios (which are very common)
- Support for UTF-8 characters with FTP processors

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12349733>

## Version 1.13.0

Version 1.13.0 of Apache NiFi is a significant feature, improvement, and bug fix release.

Release Date: February 15, 2021

Highlights of the 1.13.0 release include:

- Status history is now held for system level metrics (GC, repo sizes, load average)
- Now support a ListenFTP processor to allow NiFi itself to act as an FTP server
- Now able to automatically alter Hive table structures based on evolution in the schema of incoming data
- Component level properties (like those of Processors) now have a dependency structure so that users are guided to set additional related properties as appropriate
- Zookeeper interactions can now be protected with TLS
- Numerous improvements for interactions with Microsoft Azure protocols and systems
- Improvements to Google Cloud and Amazon Web Services integrations
- Improvements to AMQP and MQTT integrations
- Several improvements enabling better Change Data Capture and stable high speed ingest to Apache Kudu

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12348700>

## Version 1.12.1

Version 1.12.1 of Apache NiFi is a pure bug fix and minor improvement release

Release Date: September 28, 2020

Highlights of the 1.12.1 release include:

- Restored support for keystores containing multiple certs.
- Toolkit generates SAN entries in certs again.
- UnpackContent if unable to determine file permissions just behaves as it used to
- Registry URL saves properly whether a port is present or not.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12348757>

## NiFi NAR Maven Plugin Version 1.3.2

Version 1.3.2 of Apache NiFi NAR Maven Plugin is a bug fix release.

Release Date: September 21, 2020

Highlights of the 1.3.2 release include:

- Fix bug where the version of provided dependencies like nifi-api is incorrectly determined

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12345514>

## Version 1.12.0

Version 1.12.0 of Apache NiFi is a feature, stability, and security related release

Release Date: August 18, 2020

Highlights of the 1.12.0 release include:

- By very popular demand you can now empty all queues in a given process group with a single request!
- New processor to write scripted record transforms live in the flow
- Expose a REST Endpoint for easy metric scraping by Prometheus
- Ability to specify group level flow file concurrency - for instance run a single flow file end to end before running another for traditional job handling
- Improved several capabilities related to Azure service interaction
- Improved AMQP and MQTT support as well as JMS improvements
- Support for latest Kafka 2.6 clients

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12346778>

## Version 1.11.4

Version 1.11.4 of Apache NiFi is a stability release.

Release Date: March 22, 2020

Highlights of the 1.11.4 release include:

- Fixed an issue preventing parameter updates from properly resulting in Controller Service restart
- Fixed SFTP processor related handling of connections and file deletion
- Fixed a resource leak when using Site to Site
- Several fixes and enhancements for record oriented processing

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12347770>

## Version 1.11.3

Version 1.11.3 of Apache NiFi is a stability release.

Release Date: Feb 26, 2020

Highlights of the 1.11.3 release include:

- Fixed an issue present since NiFi 1.10 that was causing resource leaks when using S2S Reporting and DistributedMapCache
- Several bug fixes and improvements for interactions between Apache NiFi and Apache Kudu
- Updated Google Cloud Platform dependency making cases like PubSub with proxies work

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12347022>

## Version 1.11.2

Version 1.11.2 of Apache NiFi is a stability release.

Release Date: Feb 19, 2020

Highlights of the 1.11.2 release include:

- Fixed a regression causing load balancing not to work for correlation or single node modes
- Prevent multiple submissions on connection dialog
- Fixed issues related to record handling of nested arrays with QueryRecord

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12346972>

## Version 1.11.1

Version 1.11.1 of Apache NiFi is a stability and security release.

Release Date: February 3, 2020

Highlights of the 1.11.1 release include:

- Fixed a regression causing backpressure not to work properly in clustered configurations
- Fixed an issue causing queue priorities not to be enforced after restart
- Improved error handling of PutHDFS in the event of an error on cleanup to ensure retry

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12346906>

## Version 1.11.0

Version 1.11.0 of Apache NiFi is a feature, stability, and security release.

Release Date: January 22nd, 2020

Highlights of the 1.11.0 release include:

- Improved handling and support for partitions when sending data to Azure Event Hubs.
- All repositories (Content, FlowFile, Provenance) can now be encrypted on disk controlled at an application level.
- Class loader isolation now includes isolating native libraries within the Nars! Huge help for interacting with many Hadoop vendors or other systems from the same NiFi cluster.
- Keytab Credential Service now supported to ensure easily configured secure communications with the Hortonworks Schema Registry.
- IBM MQ now easier to integrate with for existing NiFi JMS processors.
- Large array of important bug fixes that improve performance, stability, user experience.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12346451>

## Version 1.10.0

Version 1.10.0 of Apache NiFi is a feature and stability release.

Release Date: November 4th, 2019

Highlights of the 1.10.0 release include:

- Apache NiFi can now be built on either Java 8 or Java 11! When built on Java 8 it can run on Java 8 or Java 11.
- A new experimental encrypted content repository implementation is available.
- A new capability to define parameters, including sensitive values, is available at a process group level and can be used to replace the value at runtime for any component property (not just those that are EL enabled). This is huge for automated deployment processes, moving from environment to environment, and having a single flow parameterized many different ways and used over and over.
- A new Prometheus reporting task is available.
- Powerful new feature to help operations teams: Back-pressure prediction!
- Flows built in NiFi can now be published to the NiFi Registry and trivially run using the new Stateless NiFi execution engine and command line! This leads to some very powerful configurations and models for linear flows with transactional sources that can be replayed (Kafka, etc..).
- Hundreds of other features, improvements, and bug fixes!
- Please note several components that were bundled by default are no longer included due to space limitations. Please see [Migration Guidance](#) specifically for moving to 1.10.x.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12344993>

## NiFi Flow Design System 0.2.0

Version 0.2.0 of Apache NiFi Flow Design System is an atomic reusable platform providing a consistent set of UI/UX components for open source friendly web applications to consume.

Release Date: July 26th, 2019

Highlights of the 0.2.0 release include:

- Refined Implementation of some UX components in the Flow Design Specification
  - Typography - updated class name and better documentation
  - Tables - updated to leverage the theme
  - Checkboxes/Radios - updated to leverage the theme
  - Accordions - updated to leverage the theme
- Upgraded build process to leverage modern best practices
  - webpack - to support faster dev cycles
  - babel - to support TS and/or ES6 javascript modules
- Upgraded client side dependencies:
  - jQuery
  - Angular
  - Angular Material
  - Teradata Covalent
  - rxjs

A full list of issues that were resolved can be found at: [https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12343453&styleName=Html&projectId=12316020&Create=Create&atl\\_token=A5KQ-2QAV-T4JA-FDED\\_17e726af87cf931b3b2bfe6d09311c99a00dd659\\_lout](https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12343453&styleName=Html&projectId=12316020&Create=Create&atl_token=A5KQ-2QAV-T4JA-FDED_17e726af87cf931b3b2bfe6d09311c99a00dd659_lout)

## NiFi NAR Maven Plugin Version 1.3.1

Version 1.3.1 of Apache NiFi NAR Maven Plugin is a bug fix release.

Release Date: May 13th, 2019

Highlights of the 1.3.1 release include:

- Upgrade version of maven-dependency-tree to correctly resolve dependencies when generating extension manifest

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12345484&styleName=&projectId=12316020>

## NiFi NAR Maven Plugin Version 1.3.0

Version 1.3.0 of Apache NiFi NAR Maven Plugin is a feature and stability release.

Release Date: May 3, 2019

Highlights of the 1.3.0 release include:

- New feature to generate an extension manifest containing information about extensions included in the NAR
- Fixed a bug related to timestamped dependency version
- Fixed a bug related to the help mojo

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12340213>

## Version 1.9.2

Version 1.9.2 of Apache NiFi is a bug and stability release.

Release Date: April 8, 2019

Highlights of the 1.9.2 release include:

- Resolves a content repository bug which could lead to resource exhaustion on the underlying file system and stopped flows.
- If an out of memory error occurs while framework code executes it will not lose threads or be silent about it.
- Writing to AWS with PutS3Object handles international characters better.
- Listing policies when users and groups have been deleted is handled correctly.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12345213>

## Version 1.9.1

UPDATE: As of Mar 27th 2019: NIFI-6150 has been identified which means 1.9.1 can result in content repo being exhausted and not cleaned up properly. We will produce a 1.9.2 as soon as the fix is confirmed. Recommend not updating until then.

Version 1.9.1 of Apache NiFi is a bug and stability release.

Release Date: March 16, 2019

Highlights of the 1.9.1 release include:

- Resolves a possible data-loss scenario where updates to the internal repositories could fail but the data becomes eligible to be removed.
- ListSFTP now supports filtering based on min and max age.
- Funnels and ports have more efficient transfer logic resulting in faster flows and less CPU usage.
- Improved data type inference for JSON record readers.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12345163>

## Version 1.9.0

Version 1.9.0 of Apache NiFi is a feature and stability release.

Release Date: February 19, 2019

Highlights of the 1.9.0 release include:

- New processors and controller services can be loaded live while the nodes are running!
- Database connection pooling now supports Kerberos secured Databases
- Penalty duration remaining now visible in the UI

- Several standard security headers now supported (HSTS, X-XSS-Protection, Content-Security-Policy)
- Record Readers and Writers now easier to use with automatic schema inference
- New or Improved Processors and Controller Services
  - Kudu Processors updated, validated, and now support Kerberos
  - Various updates to Amazon Web Services, Big Query, and Google Cloud Storage Processors
  - MongoDB GridFS processors now included
  - HiveQL for Hive 1.1 now supported

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12344357>

## Version 1.8.0

Version 1.8.0 of Apache NiFi is a feature and stability release.

Release Date: October 26, 2018

Highlights of the 1.8.0 release include:

- Secure cluster communication between nodes now requires two-way SSL
- Connections support load balancing across the cluster
- Nodes can be offloaded to prepare for decommissioning
- Easier to create a cluster on Docker with docker-compose and environment variables
- New or Improved Processors and Controller Services
  - LookupService that uses Elasticsearch
  - NetFlow Processors
  - JoltTransformRecord processor
  - Processors for interacting with Apache Kafka 2.0
  - SQL results can now be output as records in any supported format
  - ListenHTTP Processor supports multipart requests
- UI
  - Configure load balancing and load balancing compression from the Connection properties dialog
  - Connections indicate load balancing status
  - Cluster Summary dialog allows offloading disconnected nodes
- Documentation
  - New documentation for load balancing and node offloading
  - NiFi Port list

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12343482>

## Version 1.7.1

Version 1.7.1 of Apache NiFi addresses a few key bug fixes.

Release Date: July 16, 2018

Highlights of the 1.7.1 release include:

- Fixed an issue with wildcard certificates used to secure a cluster. Wildcard certificates are officially **not supported** but this regression behavior was fixed.
- Fixed an issue where an infinite loop could be caused by a stack overflow due to circular references.
- Fixed an issue with transitive controller service validation in unit testing.
- Fixed some issues related to processor termination and active thread representation.
- Fixed an issue with X-Frame-Options headers.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12343647>

## Version 1.7.0

Version 1.7.0 of Apache NiFi is a feature and stability release.

Release Date: June 25, 2018

Highlights of the 1.7.0 release include:

- New or Improved Processors, Controller Services, and Reporting Tasks
  - New XML record reader & writer.
  - New ForkRecord processor.
  - New SiteToSiteMetricsReportingTask.
  - Support for Hive 3.0.
- UI/UX
  - UI option to interrupt a running processor.
  - Improvements to cluster coordination.
- NiFi built against Java 1.8 can now run on Java 9.



A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12342979&projectId=12316020>

## NiFi Flow Design System 0.1.0

Version 0.1.0 of Apache NiFi Flow Design System is the initial release focusing on an atomic reusable platform for providing a common set of UI/UX components for Apache NiFi, Apache NiFi Registry, Apache NiFi MiniFi, and any other open source web applications to consume.

Release Date: June 14th, 2018

Highlights of the 0.1.0 release include:

- Initial Implementation of the Flow Design Spec
  - Typography
  - Buttons
  - Inputs
  - Tabs
  - Tables
  - Checkboxes/Radios
  - Panels
  - Dropdowns
  - Modals
  - Notifications/Coasters
  - Accordians
  - Tooltips
- Themeable
- Unit tested components - 85% code coverage
- Sample application for demonstration, verification, and documentation of nifi-fds.

## Version 1.6.0

Version 1.6.0 of Apache NiFi is a feature and stability release.

Release Date: April 8, 2018

Highlights of the 1.6.0 release include:

- New or Improved Processors, Controller Services, and Reporting Tasks
  - New REST endpoint exposed to gather processor diagnostics.
  - New processor to delete rows from Apache HBase.
  - New processor to put data to InfluxDB.
  - New processor and controller service to send data to Druid.
  - New processor to perform Mongo DB Aggregations.
  - New Processor to scan Apache HBase to retrieve records from tables.
- UI/UX
  - UI/Docs can now signal for key resource usage considerations based on annotated components flagging for things like high memory usage.
  - Users can now set fine grained policies for restricted components indicating the type of restriction such as
    - Reads Filesystem
    - Writes Filesystem
    - Executes Code
    - Keytab Access
  - Thanks to the new fine grained restricted component policies NiFi can now use its policy management mechanisms to protect specific keytab accesses in the flow making multi-tenant use cases easier and more secure.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12342422>

## Version 1.5.0

Version 1.5.0 of Apache NiFi is a feature and stability release focusing integration with the new Apache NiFi Registry.

Release Date: January 12, 2018

Highlights of the 1.5.0 release include:

- New or Improved Processors, Controller Services, and Reporting Tasks
  - Added Processors for interacting with Kafka 1.0
  - NiFi lineage can now be exported to Apache Atlas
  - HDFS, HBase, Hive processors updated to better handle Kerberos ticket renewal
  - Groovy Scripting can now leverage Grape/Grab through Ivy
  - Many processors and their properties now support expression language
- UI/UX

- Users can now import, publish, change versions of flows via the NiFi and NiFi Registry Integration. This new feature takes care of starting and stopping affected processes, highlighting differences between local and published flows, and indicating when newer versions of a given flow are available.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12341668>

## Version 1.4.0

Version 1.4.0 of Apache NiFi is a feature and stability release focusing on key bug fixes and new record based processors and controller services.

Release Date: October 2nd, 2017

Highlights of the 1.4.0 release include:

- Core Framework
  - OpenId Connect support for authenticating users
  - DistributedMapCacheClients and StateProviders can now use Redis
  - Can now use Apache Ranger to authorize groups and see Ranger policies in NiFi
  - Added support for LDAP-based user and group authorization
  - Added support for combining multiple user and group authorization providers in a chain
  - Added support for Knox (proxying and SSO)
  - NiFi now honors the "nifi.content.claim.max.appendable.size" property
  - Removed legacy dependency on Jasypt for string encryption; this is now implemented as native cryptographic components
- New or Improved Processors, Controller Services, and Reporting Tasks
  - Added Processors for interacting with Kafka 0.11.x supporting transactions and message headers
  - New processors for working with RethinkDB
  - New processors for sending data to Apache Kudu
  - gRPC client and server processors
  - New record-based processors: MergeRecord, ValidateRecord, ListenTCPRecord, PutHBaseRecord
  - In addition to the already supported simple Avro Schema Registry and Hortonworks Schema Registry, NiFi now supports integration with the Confluent Schema Registry
- UI/UX
  - Added support for Variable Registry at the Process Group level
  - Users can now double-click on a processor to display its configuration
  - When performing a Queue Listing, the UI will now indicate if the FlowFile has no content
  - Provenance repository storage usage is now displayed in the Systems Diagnostics dialog

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12340589>

## Version 1.3.0

Version 1.3.0 of Apache NiFi is a feature and stability release focusing on key bug fixes and new record based processors and controller services.

Release Date: June 8th, 2017

Highlights of the 1.3.0 release include:

- Clustering
  - Addressed issues with flow inheritability with regards to the scheduled state of each component
  - Improved stability when merging responses when lacking permissions to bulletins
  - Addressed issues when the active Cluster Coordinator is terminated without proper disconnection
  - Increased the default thread pool size for request replication
  - When joining a cluster, ensured components are not started until the local repositories have been initialized
  - Ensured response stream is accessible when attempting to view content
- Core Framework
  - Addressed timezone error when calculating component statistics
  - Added the ability to deprecate components
  - Addressed possible OutOfMemory exception when using an RPG with compression enabled
  - Addressed issue with swapping that could cause an NPE in the FileSystemRepository
  - Addressed issue with an RPG not honoring the yield duration when it was unable to contact the target instance
  - Ensured necessary response headers are set accordingly
- New or Improved Processors, Controller Services, and Reporting Tasks
  - Added UpdateRecord, PartitionRecord, LookupRecord, and PutElasticsearchHttpRecord processors
- UI/UX
  - Ensured that client revisions are correct when pointing to a node that becomes disconnected/connected to a cluster
  - Addressed issue that caused a JS bug when the component name was whitespace
  - Fix compatibility issues in deep linking with some older versions of FireFox
  - Addressed issue when attempting to change the version of the component that caused multiple versions to be returned
  - Addressed issue in the combo that caused the info icon to wrap (reported through long template names)
  - Performed additional validation of user supplied input

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12340498>

## Version 1.2.0

Version 1.2.0 of Apache NiFi is a feature and stability release that adds many new processors, record reader and writer services.

Release Date: May 8th, 2017

Highlights of the 1.2.0 release include:

- Core Framework
  - Now supports running multiple versions of the same components. Makes upgrades and multi-tenant flows easier to manage as sets the stage for upcoming Apache NiFi Registry work!
  - New provenance repository implementation available called 'WriteAheadProvenanceRepository'. Huge performance increase over the standard implementation and indexes in real-time.
- New or Improved Processors, Controller Services, and Reporting Tasks
  - New Record oriented abstraction for reading/writing schema aware event streams from CSV, JSON, AVRO, Grok, and plaintext with easy extension for other formats/schemas
    - QueryRecord processor to execute SQL queries over a stream of records powered by Apache Calcite
    - ConvertRecord processor to efficiently transform records from a given schema and format into another schema and format
    - SplitRecord processor to efficiently split huge record bundles into configurable batch sizes for divide and conquer or protect downstream systems
    - Processors to efficiently stream Records into and out of Apache Kafka in a format and schema aware manner and which automatically handle achieving high throughput and full provenance
    - Controller Services for plugging into and managing data schemas (Avro Schema Registry, Hortonworks Schema Registry) that integrate nicely into the record readers and writers
  - Features/improvements related to Change Data Capture (CDC), including CaptureChangeMySQL which reads from the MySQL binlogs, EnforceOrder, and PutDatabaseRecord processors, as well as a "Rollback on Failure" capability of some Put processors
  - New processors and controller service to support a Wait/Notify pattern enabling conditions in another portion of a flow to signal another portion to continue or execute.
  - For those that like to write new capabilities on the fly using scripting languages you can build your own reporting tasks, record readers, and writers using various scripting languages now and the ExecuteScript processor lets you write in Clojure now too
  - The JSON Jolt Transform processor now allows Jolt transforms to include NiFi expression language statements and is much faster
  - New processors to compute and compare content using Fuzzy Hashing powerful for cyber security and other cases
  - New processors to interact with Google Cloud Platform/Google Cloud Storage and Azure Blob and Table Storage
  - Added ExtractCCDAAttributes processor to extract information from a Consolidated CDA formatted flow file
  - New reporting tasks available to push flow status and bulletins out via SiteToSite protocol
  - There are a 219 processors, 28 controller services, and 10 reporting tasks now available out the box. Check them out!
- User Interface/User Experience
  - Can't help but keep fiddling with processor alignment? Ok, a lot of us do that. You can now select numerous components and have it vertically or horizontally aligned!
  - You can now deep link to components in the flow and share those links with your colleagues. Makes sharing and collaboration more natural
  - Users will enjoy a better understanding of the scope of Controller Services through an improved experience
  - For the web developer the UI is now modularized and circular references removed making it easier to extend and improve
  - New content viewer available for AVRO data useful when clicking to content from provenance
  - This release publishes the first [official Apache NiFi Docker image](#) to DockerHub!
  - Provides a set of command-line utilities to aid in cluster management (add/remove nodes from cluster)
- Security
  - Users/client connecting to NiFi through the UI or API now protected with TLS v1.2 due to upgrade to Jetty version 9.4.2
  - The Apache Kafka processors for the 0.10 clients are on the latest and support dynamic JAAS configuration
  - The new provenance repository also has an implementation which supports full encryption for all events

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12338432>

## NiFi NAR Maven Plugin Version 1.2.0

Version 1.2.0 of the NiFi NAR Maven Plugin includes enhancements to support component versioning and addresses a bug fix.

Release Date: March 17, 2017

Highlights of the 1.2.0 release include:

- Added additional information to MANIFEST to support component versioning
- Added additional information to MANIFEST to allow a NAR to specify that it's resources should be cloned during instance class loading
- Fixed a bug when running the provided-nar-dependencies goal

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12339193>

## Version 1.1.2

Version 1.1.2 of Apache NiFi addresses a key bug fix.

Release Date: February 20, 2017

Highlights of the 1.1.2 release include:

- Minor user identity formatting refactoring to fix NullPointerException.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12339600&projectId=12316020>

## Version 1.1.1

Version 1.1.1 of Apache NiFi addresses a few key bug fixes.

Release Date: December 22, 2016

Highlights of the 1.1.1 release include:

- Fixed an issue with a NullPointerException in Provenance Repo startup.
- Fixed an issue where the Provenance Repo wouldn't recover automatically when disk space runs out.
- Added missing images in the Admin Guide.
- Fixed scoping issues in templates related to Controller Services.
- Fixed policy issues relating to Remote Process Groups.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12338797>

## Version 1.1.0

Version 1.1.0 of Apache NiFi is a feature and stability focused release which builds on the great improvements and community progress of the 1.0 release.

Release Date: November 29, 2016

There are many changes in the 1.1.0 release with some highlights including:

- Core Framework Improvements
  - Cluster Management logic has been stabilized and improved to better support zero-master clustering. For example, recovery time is faster now as we're not having to always wait some artificial length of time to see if any new nodes will join and thus we should reconsider which flow is the golden copy.
  - The expression language capability now supports decimals, base64 and hex encoded values, and math functions.
  - The flowfile, provenance, and content repositories have been reworked to support rollback. We've always been careful to ensure that upgrades would work well where existing flow state would be honored but what was harder was supporting the ability to rollback where state was written via a new version of NiFi but the user decided to rollback to an older version. This is now supported. This powerful feature also sets the stage for future work to enable rolling upgrades and automated rollbacks!
  - Startup times for flows that have large backlogs should be far faster as the swap files have been reworked to provide summaries and avoid the need for full scans.
  - For developers, they can now indicate that their processor should be given an instance isolated classloader. Some libraries, like Hadoop client and scripting engines as an example, use static variables that can pollute instances of processors on the graph. This feature allows those cases to be easily overcome by enabling isolation per instance of a processor. This also makes it really easy to expose classloader extension for custom jars to users.
  - For developers, there is now an ability to migrate in-flight process session state to another process session. This will yield higher efficiency and makes for a far easier programming model for aggregation type patterns as seen in MergeContent, for example.
- User Experience Improvements
  - We now provide visual indication of queue growth relative to back pressure settings and when back pressure is engaged. This will make the concept of congestion and back pressure far more intuitive and frankly it is just fun to see in the UI. Definitely check this out.
  - After the 1.0.0 release several members of the community expressed how much they love the new look and feel but wished we had kept some of the colors. Better and more intuitive color contrast is back.
  - Validation of components is now limited to occur only for components which are not scheduled to execute. This results in much faster UX behavior as many of the operations one could do through the UI and REST API would result in expensive validation operations that were unnecessary.
  - Users can now export images of the provenance graphs.
  - Users can now use cron-scheduling for components even on primary node only tasks.
- Updated Versions of Dependencies
  - We now leverage the Azure Event Hubs 0.9.0 client library.
  - We now interact with Apache Spark using the 2.0.1 libraries.
  - We now interact with HDFS using the Apache Hadoop 2.7.3 libraries.
- New or Improved Processors
  - New Fetch and Put processors to interact with Elasticsearch 5.0 and new processors to execute Query and Scroll operations against Elasticsearch.
  - New processors to parse CEF formatted logs
  - The Extract Email processors now support TNEF formatted attachments.
  - New processor to validate CSV files.
  - The Apache Solr processors have been updated to support SSL and Kerberos.
  - New processors to act as client and server for Websockets.
- New Utility
  - In upgrading from 0.x to 1.x we provided a lot of capabilities to make the process easy and automatic. However, we didn't account for migrating from the embedded use of zookeeper to an external instance. We've now provided a utility that helps you migrate NiFi state from one zookeeper cluster to another.
  - Previously it was difficult to change the sensitive property key which is used to encrypt all sensitive properties contained within an actual flow configuration. A utility now exists to easily convert from an old key to a new key which is a valuable piece of an overall security process.
- Security Improvements
  - NiFi now supports the concept of restricted components. These are processors, controller services, reporting tasks that allow an authorized user to execute unsanitized code or access and alter files accessible by the NiFi user on the system NiFi is

running. Therefore, these components are tagged by the developer as restricted and when running NiFi in secure mode only an administrator must grant each user access to the policy allowing restricted component access.

- Site-to-Site now improved to be helpful even when port-forwarding is utilized. Very helpful for cases where an administrator might run NiFi with lower privileges but want external interaction to use well known privileged ports.
- The policy management user experience has been improved to make it more intuitive what is happening in certain cases.
- The encrypted configuration feature now has been extended to cover the Login Identity Provider capability. This is really helpful for example so you can have your LDAP password only stored in encrypted form in the login provider configuration file. Additional work is planned for these encrypted configurations to make interaction with a Hardware Security Module available as well.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12337875>

## Version 1.0.1

Version 1.0.1 of Apache NiFi backports a few key bug fixes.

Release Date: December 19th, 2016

Highlights of the 1.0.1 release include:

- Fixed multiple issues related to creating templates containing controller services.
- Fixed issue where PublishKafka could block indefinitely if fails to communicate properly to the broker.
- Fixed issue regarding the timing of Site-to-Site commits that could lead to data loss.
- Fixed permissions issues that prevented using the advanced tab of any processor in a secure instance.
- Fixed permissions issue that prevented downloading FlowFile content when using LDAP auth.

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12338865>

## Version 1.0.0

Version 1.0.0 of Apache NiFi is a major release that includes a brand new UI, framework level improvements and much more!

Release Date: August 30, 2016

There are many changes in the 1.0.0 release but the Application level highlights include:

- UI Refresh
  - The entire UI has been redone to have a cleaner, more modern look
  - UI has also been reworked to promote a better User Experience
- Zero master clustering
  - There is no longer a NiFi Cluster Manager (NCM)
  - Cluster will now auto elect a Cluster Coordinator to oversee the cluster
- Multi-tenant authorization and internal authorization/policy management
  - There is no longer just the limited Administrator, Data Flow Manager, etc. roles
  - Policies are fully customizable for each component and at the controller level as well
- Deterministic template export
  - Templates export is now deterministic and thus can now be version controlled

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12332640>

## Version 0.7.4

Version 0.7.4 of Apache NiFi addresses several defects.

Release Date: June 8th, 2017

Highlights of the 0.7.4 release include:

- Fixes
  - Ensured necessary response headers are set accordingly
  - Performed additional validation of user supplied input

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12340590>

## Version 0.7.3

Version 0.7.3 of Apache NiFi addresses several defects and includes some performance and reliability improvements.

Release Date: May 17, 2017

Highlights of the 0.7.3 release include:

- Reliability

- Resolved two issues that could cause provenance repository corruption
  - Resolved an issue that could cause files to not be deleted from the content repository
- Performance
  - Improved component validation to improve UI responsiveness when many components are on the graph
  - Improved documentation extration which reduces NiFi startup time
- Fixes
  - Fixed defects in ControlRate, FetchSFTP, GetJMSQueue, GetJMSTopic, HandleHttpResponse, InvokeHTTP, PublishAMQP, PutJMS, PutKafka, and ReplaceText processors
  - Fixed a defect in the nifi.sh start script
  - Fixed a defect occurring when replaying files from a provenance display

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12340527>

## Version 0.7.2

Version 0.7.2 of Apache NiFi addresses two key bug fixes.

Release Date: February 20, 2017

Highlights of the 0.7.2 release include:

- Minor user identity formatting refactoring to fix NullPointerException.
- Regenerating test certificates for unit tests

A full list of issues that were resolved can be found at: <https://issues.apache.org/jira/secure/ReleaseNote.jspa?version=12339601&projectId=12316020>

## Version 0.7.1

Version 0.7.1 of Apache NiFi focuses on addressing defects and security related improvements.

Release Date: October 20, 2016

Highlights of the 0.7.1 release include:

- Important stability improvements
  - Improved specific exception handling situations and synchronization in the **content repository** to avoid data loss.
  - Improved stability of **provenance repository** when handling exceptions during indexing of events.
- Improvements to existing capabilities
  - Added **SSL/TLS** support to **Kafka** processors.
  - Added features to **ConsumeKafka** to better align with features in GetKafka.
  - Improved **ConsumeJMS** to copy message properties into flowfile attributes, and to support more message acknowledgement modes.
  - Improved ConsumeJMS and PublishJMS for expression language support of destination name.
  - Various improvements to JoltTransformJSON, PutS3Object, ListS3, ListFile, ModifyBytes and PutEmail processors.
  - Deprecated some public API methods that were removed in the 1.0.0 release.
- Defects addressed
  - Fixed SiteToSiteReportingTask to not send duplicate events.
  - Fixed issue where controller services that reference other controller services could be disabled on NiFi restart.
  - Fixed issue with PublishKafka and PutKafka sending a flowfile to 'success' when it did not actually send the file to Kafka.
  - Fixed issue that multiple **HDFS processors** could not work with different HDFS clusters.
  - Fixed various issues with **Kafka processors**.
  - Fixed **GetHTTP** and **PostHTTP** to use the **SSL/TLS Protocol** property of its SSLContextService.
  - Fixed **UnpackContent** issues where it did not work with flowfile-stream or flowfile-tar content, and fixed concurrency issue.
  - Fixed ListenHTTP to avoid leaking threads when attempting to bind to an address already in use.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12338025>

## Version 0.7.0

Version 0.7.0 of Apache NiFi adds several valuable Processors, a new developer focused doc, and continued improvement to usability and stability.

Release Date: July 12, 2016

Highlights of the 0.7.0 release include:

- New Application Features
  - NiFi now supports exposing key/value pairs set in "nifi.properties" to **Expression Language**.
- Improvements to Existing Capabilities
  - Added the ability to bulk using Index or Update to **PutElasticSearch**.
  - Allow concurrent execution of **ExecuteScript**.
  - **Expression language** now has a random number function.
- New Extensions
  - New processors to Get data from **SNMP** agents and execute **SNMP** set requests.
  - Added new processor to Put to **Slack**.

- New processors to Get and Put data to an **MQTT** broker.
  - Added processor to listen for messages using the **Lumberjack** protocol.
  - New **ExtractMediaMetadata** processor to extract metadata from various file types using Apache Tika.
  - New processors to Delete, Put and Get **AWS DynamoDB**.
  - Added processor to poll notification events provided by **HDFS Inotify** interface.
  - Add ReportingTask for sending **Provenance** events over **Site-To-Site**.
- Important Stability Improvements
  - Fixed instance where archiver was not respecting `nifi.content.repository.archive.max.usage.percentage`.
  - Resolved issue where incoming connection could be deleted while processor was still running.
  - Fixed issue where FileSystemRepository could leave open file handles to data that had already been archived and/or deleted.
- New Documentation
  - A new **NiFi in Depth** document was created to give an in-depth, developer level, look at NiFi and its design decisions.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12335078>

## Version 0.6.1

Version 0.6.1 of Apache NiFi focuses on addressing defects.

Release Date: April 18, 2016

Highlights of the 0.6.1 release include:

- Improvement to existing capabilities
  - Exposed property to control fetch size when interacting with databases in the 'QueryDatabaseTable' processor. Previously it just defaulted to one and would be inefficient.
- Defects addressed
  - Corrected an issue where high-rate bulletin generation caused more than the last five bulletins to be retained which wasted memory.
  - Corrected logic in GetKafka that resulted in leaking connections to Zookeeper ultimately leading to node instability.
  - Corrected PutKafka logic where incorrect message demarcation could result in data loss during transfer.
  - Simplified validation logic for Hadoop and HBase processors that led to excessive and expensive validation calls that caused sluggish UI behavior.
  - Resolved an edge condition which could cause the content archival to not expire data properly resulting in full content repositories and stopping the flow.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12335496>

## Version 0.6.0

Version 0.6.0 of Apache NiFi provides several new features and addresses multiple bugs or improvements.

Release Date: March 26, 2016

Highlights of the 0.6.0 release include:

- New Application Features
  - NiFi's REST API can now support **Kerberos Authentication** while running in an Oracle JVM.
- Improvements to Existing Capabilities
  - **ListenRELP** and **ListenSyslog** now alert when the internal queue is full. This means data receipt exceeds consumption rates as configured and data loss might occur so it is good to alert the user.
  - **ListHDFS** will now retain simple and finite state rather than an enumeration of all files seen with the same timestamp.
  - **ListenSyslog**, **ListenRELP**, **ListenUDP** have vastly improved performance and simpler configuration.
  - Updated Spark Receiver to support **Apache Spark 1.6**
  - Interaction with HBase now supports Kerberos enabled **Apache HBase**.
  - Fixed an issue in ExecuteSQL that caused SchemaParse failures against multiple databases.
- New Extensions
  - New processor '**QueryDatabaseTable**' monitors and tracks timestamp of latest record retrieved to support simple change capture cases.
  - Added a new processor that can be bootstrapped by a Spring Application Context. Could enable someone to run **Apache Camel** routes or **Spring Integrations** flows in NIFI for example.
  - Added new processor to Put data with **Amazon Kinesis Firehose**
  - New processor to put data to **Amazon Web Services Lambda** service.
  - New processors to Put data to and Get data from **Splunk**.
  - New processors to Get and Put data to **Apache Cassandra**
- Important Stability Improvements
  - Resolved corner case that could lead to corruption of flow file repository during shutdown.
  - Resolved a case that lead NiFi to hold open too many files when using run durations longer than 0 ms.
  - Resolved flow.xml.gz ordering issue that led to upgrade instability for clusters.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12334372>

**Known Issues with this release:**



- [NIFI-1701](#) - Getting issue details... STATUS :PutKafka error handling and logic far better but poor stream demarcation can lead to data loss.

## Version 0.5.1

Version 0.5.1 of Apache NiFi addresses several bugs and issues.

Release Date: February 26, 2016

Highlights of the 0.5.1 release includes:

- **Highlights of Bugs addressed**
  - **Close a case that could lead to data loss:** In the event that all flow files assigned to a given resource claim were swapped out, and the archive had to reclaim old space or was not engaged, and NiFi was restarted resource claims could be removed resulting in data loss.
  - **LDAP based authorization blocking valid API calls:** When using LDAP based authentication there were times when the access token wasn't being propagated which resulted in some valid API calls being rejected such as when downloading content or templates.
  - **Improved error messaging:** Several processors include improved error messages
  - **Hadoop processor bug fixed:** Issues with multiple PutHDFS processors fixed and client library dependency problems
  - **Clustering restart and upgrade reliability:** A long-standing issue which caused problems when a cluster was restarted or upgraded was fixed.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12334887>

## Version 0.5.0

Apache NiFi 0.5.0 includes several exciting new capabilities to include new processors, exciting new developer tools for building and testing processors. Stability and performance continue to be a priority and a long list of bugs were identified and resolved!

Release Date: February 16, 2016

Highlights of the 0.5.0 release includes:

- **New Application Features**
  - **Data inspection:** We've greatly enhanced the ability to interact with data and inspect it as it is flowing through NiFi.
- **Things to make NiFi Development Better and Easier**
  - **State Management:** As many developers are aware, keeping state in a Processor was often "up to you". This extension to the framework addresses this by adding state management as a core feature. In addition, many existing processors which kept state were modified to take advantage of this new capability.
  - **Testing Improvements:** We've improved the performance of many unit tests, added support for groovy for unit tests, the ability to test in unit tests, as well as better support for integration testing
- **Improvements to Existing Capabilities**
  - **RELP Support for Syslog:** In addition to adding support for RELP (Reliable Event Logging Protocol) for transporting syslog messages, emphasis was put on improving the framework to enable even more extensions in future releases.
  - **S3 Improvements:** We've pushed past the 5G max upload limitation of the previous PutS3Object processor by adding Multipart Upload support. Additionally, we added a couple authorization capabilities, like expression language support for keys, and an exciting new controller service created initially for fetching from buckets access across accounts.
  - **Hive Support:** The Kite bundle now supports sending data directly into Hive tables
  - **Encryption:** A broad set of enhancements were made to improve encryption and decryption of content and associated user documentation.
- **New Extensions**
  - **Script Execution:** We've dramatically enhanced the ability to operate on data flowing through NiFi by adding support for launching scripts in a flow. We added a broad set of scripting languages - you can launch JRuby, Groovy, JavaScript, Lua, or Jython scripts with access to FlowFile data, which will allow much more dynamism and quick reaction capability in your data flows.
  - **Support for sending Riemann Events:** NiFi now supports sending events to the Riemann event stream processing system.
  - **Elasticsearch:** Connectivity to the popular search engine was added to this release
  - **Avro Schema Inference:** Support was added allowing the inference of an Avro schema from JSON and CSV data flowing through NiFi.
  - **AMQP support:** NiFi now supports sending and receiving from AMQP (Advanced Message Queueing Protocol) based messaging systems

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12334158>

**Known Issues with this release:**

- [NIFI-1497](#) - Getting issue details... STATUS : An issue with Access Tokens may cause Viewing Content and Custom UIs to fail
- [NIFI-1527](#) - Getting issue details... STATUS : An issue that under certain conditions can result in data loss
- [NIFI-1694](#) - Getting issue details... STATUS : Users upgrading from NiFi 0.4.1 may encounter errors in PGP key-based encryption

/decryption with `EncryptContent` processors if they have provided an individual key file for the `public` keyring file or `secret` keyring file property. A valid keyring file must be provided, and the full `userID "Name (Comment) <Email>"` form should be provided.



# Version 0.4.1

Version 0.4.1 of Apache NiFi is an incremental release addressing several bugs and providing a few minor improvements over the 0.4.0 release.

Release Date: December 22, 2015

Highlights of 0.4.1 release include:

- **Bugs addressed**
  - **Site-To-Site:** If the remote system was applying back-pressure and the sending system attempted to stop the connection the sending system flow configuration could hang. If one of the nodes in a cluster being delivered to went off-line it could cause site-to-site to stop delivering to the other nodes in certain conditions. The automatic account request mechanism was broken.
  - **Flow File Ordering:** Ordering based on timestamp of flow file entry has been augmented with a sequence counter to provide better ordering precision.
  - **Run duration:** Only shown now when the processor supports the batching mechanism of run duration.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12334375>

# Version 0.4.0

Version 0.4.0 of Apache NiFi is a provides substantial improvements in functionality and usability, as well as providing some stability and performance improvements and bug fixes.

Release Date: December 11, 2015

Highlights of 0.4.0 release include:

- **New Application Features**
  - **Multiple Authentication Mechanisms:** NiFi now supports multiple Authentication Mechanisms! No longer is NiFi tied to being either non-secure or security based on two-way SSL but now can provide User Authentication via LDAP. This was a significant undertaking, but has paved the way to far more easily provide new Authentication Mechanisms. Future releases will include additional mechanisms, such as Kerberos.
  - **Drop FlowFiles from Queue:** Users are now able to right-click on a Connection and drop the FlowFiles in the queue, rather than relying on FlowFile Expiration to remove unwanted FlowFiles.
- **Usability Improvements**
  - **Explicit Processor Connectivity:** Processors that do not expect incoming data will no longer allow incoming Connections. Attempting to draw a connection to a "Source Processor" will show the connection line as a red, dotted line, and will not allow the Connection to be made. Likewise, Processors that require input to perform work will be invalid until they have an incoming Connection. Some Processors may accept incoming data or run without any incoming data. These Processors will be valid regardless of whether or not they have incoming connections.
  - **Getting Started Guide:** Getting Started Guide is added to the 'help' screen of the application. This guide provides an introduction to NiFi terms, introduces the key concepts of NiFi and discusses how to work with FlowFiles and their Attributes. This is similar in concept to the User Guide but is far less verbose and explains concepts at a higher level.
  - **Provenance Fetch Event:** A new Provenance Event Type (FETCH) was added. This Event Type is used to indicate that an existing FlowFile's contents were modified as a result of obtaining data from an external resource. This is in contrast to a RECEIVE event, which is used to indicate that a FlowFile entered the system as a result of obtaining data from an external resource.
- **New Extensions**
  - **RouteText:** Allows user to easily establish queries against textual data. Each line of a FlowFile is matched against the specified rules and routed according to the rules (potentially many lines of text are included in each output FlowFile). Also supports grouping of textual data so that FlowFiles that are output do not contain text from two different groups.
  - **TailFile:** Allows user to "tail" a file, consuming data from the end of the file as it is written by another process. This is typically used to consume data from log files as it is written. Processor will pick up where it left off, even if NiFi is restarted and log files roll over.
  - **ListenSyslog / PutSyslog:** Listens for incoming Syslog events over UDP or TCP and sends events to Syslog.
  - **ListFile / FetchFile:** Performs a listing of files in a given directory and fetches those files. These processors differ from GetFile in that the ListFile processor keeps state about files that have been consumed, so that the file can be ingested only once without deleting the source file. Additionally, if the directory being monitored exists in a mounted volume, the state can be shared across the cluster so that a new primary node can pick up where the previous processor left off, and the listing can also be shared across the cluster, distributing the work of pulling in and processing the files.
  - **ListSFTP / FetchSFTP:** Performs a listing of files on an SFTP server and fetches those files. Similarly to ListFile / FetchFile, state can be distributed across the cluster so that multiple nodes can perform the work in parallel.
  - **DeleteS3Object:** Removes an Object from Amazon S3.
  - **PutHBaseCell / GetHBase / PutHBaseJSON:** Allows users to put the contents of a FlowFile to HBase and listen for changes to an HBase table, automatically pulling in the rows that are added/updated.
  - **GetAzureEventHub / PutAzureEventHub:** Send the contents of FlowFiles as Events to Microsoft Azure Event Hub or listen for incoming Events on an Event Hub and create FlowFiles for those Events.

- **GetCouchbaseKey / PutCouchbaseKey**: Send the contents of FlowFiles to Couchbase or fetch the contents of a record from Couchbase.
- **AttributesToJson**: Easily form a JSON document (as the contents of a FlowFile or as an Attribute) from a user-defined set of FlowFile Attributes.
- **SplitAvro**: Splits a FlowFile that consists of many Avro records into individual FlowFiles, each containing a smaller number of Avro records.
- **ExtractAvroMetadata**: Extracts the metadata from the header of an Avro file and adds the metadata to the FlowFile as a set of Attributes.
- **Image Content Viewer**: When users look at the details of a Provenance Event, in the Content tab, if the View button is clicked, and the contents of the FlowFile are an image, that image will be rendered in the UI, rather than indicating that no viewer is available for this content type.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12333070>

## Version 0.3.0

Release Date: September 18, 2015

Highlights of 0.3.0 release include

- Performance improvements in handling large volumes of small files.
- Performance improvements in Provenance repositories.
- Added Reporting Task for Apache™ Ambari™.
- Improved stability of nifi bootstrap.
- Added Processors for working with images.
- Support for interacting with Kerberos enabled Hadoop clusters
- Added additional Avro capabilities - merging datafiles & converting to json
- Added Processors for performing INSERT, UPDATE, DELETE statements against relational databases
- Added Processors that run Apache™ Flume™ sources and sinks.
- Added Processors to integrate with Amazon Web Services (S3, SNS, and SQS).
- Archival of content is now enabled by default.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12329653>

## NiFi NAR Maven Plugin Version 1.1.0

Release Date: August 23, 2015

Highlights of 1.10 release include

- Created a new plugin that allows developers to obtain a listing of transitive dependencies that are provided through a NAR dependency.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12333301>

## Version 0.2.1

Release Date: July 26, 2015

Highlights of 0.2.1 release include

- Removed all appropriate references to Incubator as NiFi is now a TLP.
- Fixed a bug that appeared in 0.2.0 that caused new users to a NiFi instance not to be prompted to create an account.

A full list of issues that were resolved can be found at <https://issues.apache.org/jira/secure/ReleaseNote.jspa?projectId=12316020&version=12333089>