

# Fedora 4.6.0 Release Notes

Release date: 31 August, 2016

We are proud to announce the release of Fedora 4.6.0.

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## Resources

- This release has been built against Java 8 and requires Java 8
- [Downloads](#)
- [Javadocs](#)

## Team

### Release Manager

- [A. Soroka](#), the University of Virginia

### Developers

- [A. Soroka](#), University of Virginia
- [Aaron Birkland](#), Johns Hopkins University
- [Unknown User \(acoburn\)](#), Amherst College
- [Aaron Elkiss](#), University of Michigan
- [Andrew Woods](#), DuraSpace
- [Benjamin Armintor](#), Columbia University
- [Bethany Seeger](#), Amherst College
- [Bill Branan](#), DuraSpace
- [Esme Cowles](#), Princeton University
- [Jared Whiklo](#), University of Manitoba
- [Michael Durbin](#), University of Virginia
- [Michael J. Giarlo](#), Stanford University
- [Mirek Simek](#), University of Chemistry and Technology, Prague
- [Mohamed Mohideen Abdul Rasheed](#), University of Maryland
- [Nick Ruest](#), York University
- [Peter Eichman](#), University of Maryland
- [Yinlin Chen](#), Virginia Tech

### Issue Reporters

- [Esmé Cowles](#)
- [Andrew Woods](#)
- [Unknown User \(acoburn\)](#)
- [Jim Coble](#)
- [Aaron Birkland](#)
- [Jared Whiklo](#)
- [Nick Ruest](#)
- [Mirek Simek](#)
- [Benjamin Armintor](#)
- [David Chandek-Stark](#)
- [Michael Durbin](#)
- [Bill Branan](#)
- [Perry Willett](#)
- [Michael J. Giarlo](#)
- [A. Soroka](#)
- [Scott Prater](#)
- [Doron Shalvi](#)
- [Trey Pendragon](#)
- [Rob Sanderson](#)
- [Yinlin Chen](#)

# Summary

The Fedora 4.6.0 release furthers several major objectives:

- Tighten the definition of the RESTful application programming interface (API)
- Refining the messaging service
- Use performance test fixtures to examine the effects of different backends
- Improve durability by encouraging the use of MySQL and PostgreSQL backends
- Deprecation of legacy Transform service
- Fix bugs

This release will be the last release built against a version of Modeshape that uses Infinispan for data storage.

This release is a major release (i.e. 4.6.0 instead of 4.5.2) because there are several REST API updates that are not backwards compatible with 4.5.x. The following, deprecated, REST endpoints have been removed:

- /fcr:nodetypes
- /fcr:export
- /fcr:import

Additionally, the user-provided `repository.json` configuration file must be set as a system property. Unlike in previous releases, there is no default value. See [Application Configuration](#) for more details.

The other non-backwards compatible change is the update to the messaging format, detailed in the section below.

## Changes

### Messaging Interface

As the draft Fedora Messaging (SPI) specification moves toward finalization, the message serialization format has been modified to track the recommendations outlined in this document. This will affect any existing message consumers. There are four significant changes that messaging applications should be aware of:

1. Previous versions of Fedora emitted messages with the header `org.fcrepo.jms.properties`. This header is no longer included in messages.
2. Previous versions of Fedora emitted messages with the header `org.fcrepo.jms.eventType`, using values with the <http://fedora.info/definitions/v4/repository#> namespace but which were not defined in the Fedora ontology. The `org.fcrepo.jms.eventType` header now uses values from the newly published Event ontology: <http://fedora.info/definitions/v4/event#>.
3. A new header is included with the name `org.fcrepo.jms.resourceType`. This header includes all `rdf:type` values of the resource in question.
4. Previous versions of Fedora emitted header-only messages where each header was prefixed with `org.fcrepo.jms`. The message serialization now also includes a body formatted in JSON-LD using the PROV namespace. All data found in the JMS headers are also available in the body serialization. Examples of this format can be found here: <https://github.com/fcrepo4/fcrepo-event-ontology>.

Please note: the JMS-centric header names are **not** part of the upcoming messaging specification and may be removed from a future version of the `fcrepo-jms` module. Messaging clients are **strongly** encouraged to rely on data in the message body.

### Application Programming Interface

One of the [technical priorities](#) of Fedora is to define a well-specified application programming interface (API) against which client applications can be written and future server-side implementations can be created. This Fedora API should be clear and detailed enough such that a corresponding [technology compatibility kit](#) (TCK) would be able to indicate if any Fedora implementation fulfills or diverges from the specification. With this in mind, several issues were addressed in this release that clean up Fedora's RESTful interaction.

An important particular change to note here is the move to use only weakly-validated ETags for RDF resources, in line with a correct interpretation of the HTTP specifications. This means that such ETags are no longer suitable for use with the `If-Match` request header. Additionally, the extensions `fcr:transform` has been marked as "deprecated" in favor of more robust tooling found in [fcrepo-ldpath](#).

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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### Web Access Control

Documentation of Fedora's implementation of Web Access Controls is available on the [wiki](#).

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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## Performance

The Performance and Scale group has been testing various versions of Fedora, including the 4.6.0 release candidates. Recent work has focused on running our JMeter test plans by multiple sites and testing the impact of using a relational database (MySQL or PostgreSQL) instead of LevelDB. The performance of the databases has been at least as good as LevelDB, and typically scales much better. In addition, testing has identified scalability issues with containers that link to a large number of other containers, and is working to address that issue. The current status of testing is tracked in the wiki: [Performance and Scalability Test Plans](#).

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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## Preservation

This release includes continuing support for various backend object stores. Default usage of that LevelDB backend has been removed, to encourage the intentional selection of a backend appropriate to the integration in hand.

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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## Housekeeping and Bugfixes

Numerous refactorings, bugfixes, and clean-up tasks were addressed in this release:

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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## Complete Listing of Resolved Tickets

key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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